CIVIL SERVICES EXAMINATION

focus

MONTHLY NOTES BY RAU'S

BUDDHIST ETHICS   *112*

SILENCE OF GOOD IS MORE DANGEROUS THAN
ACTION OF EVIL. *119*

"EVERYTHING WE HEAR IS AN OPINION, NOT A FACT.
EVERYTHING WE SEE IS A PERSPECTIVE, NOT THE TRUTH." *120*

FROM BEING TO BECOMING *122*

CURRENT AFFAIRS ANALYSIS

logical . simple . targeted
analysis & explanation
of relevant news

ETHICS, INTEGRITY & APTITUDE

Coverage from
varied
sources

ESSAYS OF THE MONTH

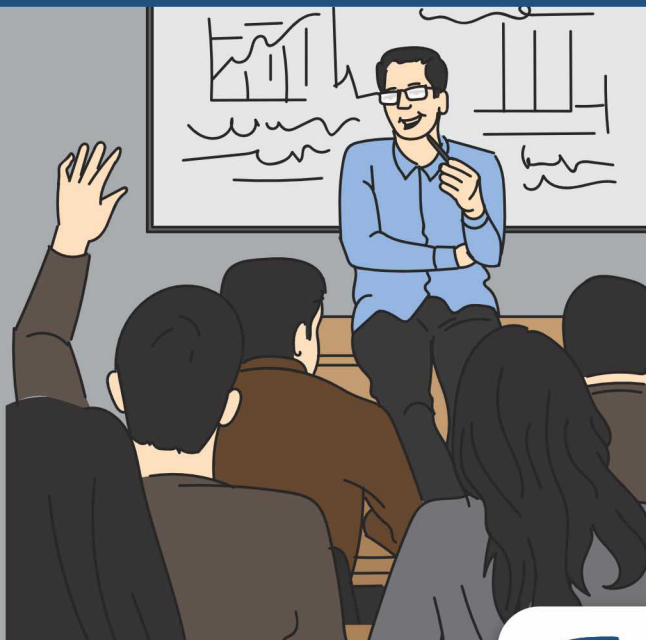Selected essays
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AUGUST 2024

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editorial note

Is the GRATK really a win for India and global south?

The Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge, finalized during a Diplomatic Conference hosted by the World Intellectual Property Organization (WIPO), marks a significant step towards protecting the rich cultural heritage and biodiversity of indigenous peoples and local communities. The origins of this treaty date back to 1999, when Colombia first proposed the idea, emphasizing the urgent need to recognize the intellectual property rights of those who have nurtured and preserved genetic resources and traditional knowledge for generations. This proposal evolved through years of negotiation, leading to the treaty's formalization in 2001.

Objectives of the WIPO Treaty on Genetic Resources & Traditional Knowledge (GRATK)

The GRATK aims to enhance the transparency, efficacy, and overall quality of the global patent system, particularly in relation to genetic resources and traditional knowledge. One of its primary goals is to protect these invaluable resources from exploitation and misuse. This protection is essential not only for preserving the biodiversity and cultural heritage of indigenous communities but also for ensuring that the global patent system operates fairly and effectively. By preventing the erroneous granting of patents for inventions that lack novelty or inventiveness especially those related to genetic resources and traditional knowledge—the treaty seeks to uphold the integrity of the patent system. Furthermore, the treaty promotes international disclosure practices related to genetic resources and associated traditional knowledge in patent applications, thereby contributing to legal certainty and consistency across borders.

Salient Features of the GRATK

One of the most critical aspects of the GRATK is the **Mandatory Patent Disclosure Requirement**. Under this provision, patent applicants are required to disclose the country of origin of the genetic resources used in their inventions, as well as the indigenous people or local community that provided the

associated traditional knowledge. This requirement is a crucial step towards ensuring transparency and fairness in the patent process, as it acknowledges the contributions of indigenous peoples and local communities to modern science and technology.

To enforce this disclosure requirement, the treaty outlines a system of **Sanctions and Remedies**. If an applicant fails to disclose the required information, they would be subject to appropriate, effective, and proportionate measures. However, the treaty also allows applicants the opportunity to rectify any failure to disclose before sanctions are imposed. This balance between enforcement and flexibility is designed to encourage compliance while recognizing the complexities of the patent application process.

Another innovative feature of the treaty is the encouragement of **Information Systems**. These systems, such as databases of genetic resources and associated traditional knowledge, can be established voluntarily, in consultation with indigenous people and local communities. Such databases would compile and reference a wide range of information, including the known uses of genetic resources and relevant scientific compilations. The accessibility of these databases to patent offices is crucial for the search and examination of patent applications, ensuring that patent examiners have the information they need to make informed decisions.

The treaty also addresses the issue of **Non-Retroactivity**, stipulating that no obligations will be imposed on patent applications filed before the treaty enters into force. This provision provides clarity and security for those who have already submitted patent applications, preventing retroactive changes that could disrupt the patent landscape.

Finally, the treaty includes an **In-Built Review Mechanism**. This mechanism allows for the review of certain issues, such as the extension of disclosure requirements to other areas of intellectual property, or the consideration of new and emerging technologies, four years after the treaty comes into effect. This

forward-looking approach ensures that the treaty remains relevant and effective in a rapidly evolving technological landscape.

Significance of the GRATK

The significance of the GRATK cannot be overstated, particularly for countries of the Global South and India. These regions are home to the bulk of the world's biodiversity and traditional knowledge, making them particularly vulnerable to exploitation through the global patent system. India, for example, is a megadiverse country, holding 7-8% of global biodiversity and a rich repository of knowledge based on genetic resources. For these countries, the treaty represents a significant victory, as it provides a framework for protecting their biodiversity and traditional knowledge on the global stage.

Moreover, the GRATK is the first WIPO treaty to specifically address the interface between intellectual property, genetic resources, and traditional knowledge. It is also the first WIPO treaty to include provisions specifically designed for indigenous peoples and local communities. This focus on indigenous rights reflects a growing recognition of the importance of these communities in preserving the world's cultural and biological diversity.

The treaty also reaffirms the importance of multilateralism in addressing global challenges. By bringing together countries from around the world to negotiate and agree on a common framework for protecting genetic resources and traditional knowledge, the GRATK demonstrates the power of international cooperation in achieving shared goals.

Concerns with the Treaty

Despite its many strengths, the GRATK is not without its critics. One of the most significant concerns is that the treaty fails to adequately address the issue of biopiracy due to a **Weak Sanctions Regime**. Critics argue that the sanctions outlined in the treaty are insufficient to deter those who would seek to exploit genetic resources and traditional knowledge without proper authorization. For example, there is no provision for penalties for non-disclosure, which could allow patent applicants to withhold important information without fear of serious consequences. Additionally, the treaty provides countries with the opportunity to rectify failures to disclose information before sanctions are imposed, which some argue could undermine the effectiveness of the disclosure requirement.

There are also concerns that the treaty places **No Obligation on Patent Offices to Verify the Authenticity of Disclosures**. Without this verification, it is possible that false or incomplete information could be submitted without detection, potentially leading to the granting of invalid patents. Furthermore, the treaty does not allow for the revocation, invalidation, or rendering unenforceable of patent rights solely based on an applicant's failure to provide mandatory patent disclosure. This lack of enforcement power raises questions about the treaty's ability to prevent the exploitation of genetic resources and traditional knowledge.

Another significant issue is the treaty's **Silence on the Positive Protection of Traditional Knowledge for Indigenous Peoples and Local Communities (IPLCs)**. The treaty does not recognize traditional knowledge as the intellectual property of IPLCs, which would have provided these communities with exclusive collective rights to control their traditional knowledge. Moreover, the treaty does not guarantee fair and equitable sharing of benefits in favor of IPLCs in return for the use of their traditional knowledge. This omission could undermine the rights of indigenous peoples and local communities, who may find themselves excluded from the benefits of their own knowledge.

The treaty also fails to address the **Right of Attribution and the Right to Use of Their Own Traditional Knowledge** for IPLCs. This lack of recognition could lead to situations where indigenous communities are denied credit for their contributions or are unable to use their own knowledge freely. Additionally, the treaty does not provide adequate protection for **Traditional Cultural Expressions**, such as music, dance, art, and handicrafts, which are an integral part of indigenous cultural identity.

Finally, there are concerns about the potential **Dilution of India's Patent Laws**. To align with the GRATK, India would need to amend its domestic laws, such as the Patents Act and the Biological Diversity Act. These amendments could potentially weaken existing protections designed to safeguard traditional knowledge and genetic resources. For instance, India's Patent Law currently provides for pre-grant opposition against non-disclosure of the source of origin and allows for the revocation of granted patents for non-disclosure of information. These safeguards could be compromised under the new treaty, leaving India's rich biodiversity and traditional knowledge vulnerable to exploitation.

Conclusion

The WIPO Treaty on Genetic Resources and Traditional Knowledge represents a crucial step forward in the global effort to protect the intellectual property of indigenous peoples and local communities. However, its success will depend on how effectively its provisions are implemented and enforced. While the treaty offers significant protections and acknowledges the contributions of indigenous communities, it must address its weaknesses, particularly in the areas of sanctions and the positive protection of traditional knowledge. Only then can it truly fulfill its promise of safeguarding the world's genetic resources and the invaluable knowledge of the communities that have stewarded them for generations.

All the best students,
Jaikrit Vatsal

focus

CRITICAL NOTES FOR THE PREPARATION OF GENERAL STUDIES PAPERS

The purpose of Focus is to expound the applied nature of General Studies to Civil Services aspirants thereby making them aware of the real demand of UPSC exam.

The sources relied for selection and analysis of issues are:

1. The Hindu, The Hindu (Sun.)
2. The Indian Express
3. The Times of India
4. Asian Age
5. The Tribune
6. The Economic Times
7. Hindu Business Line
8. Frontline
9. Economic and Political Weekly
10. IDSA
11. BBC
12. Yojana
13. Kurukshetra
14. Down to Earth

RAU'S IAS STUDY CIRCLE
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Dear Students,

FOCUS is the Study Circle's monthly publication of contemporary issues and current affairs analysis. It is in fact a collective effort, by experienced educators in varied themes, of identifying current affairs in light of the UPSC syllabus, supplementing them with background information, explaining their related dimensions, lending them a generalist viewpoint and thus producing critical notes for the preparation of General Studies' syllabus.

The publication, as the name suggests, focuses solely on issues which are relevant to the factual as well as applied aspects of the General Studies' syllabus. That is how Focus covers all anticipated issues and themes for the upcoming Civil Services Examination (CSE).

Features

PART ONE | CURRENT AFFAIRS ANALYSIS

- **This month edition covers analysis of news from the immediately preceding month.**
- All news/issues are categorized and clubbed syllabus-wise (International Relations, Polity & Governance, Science & Technology, Ethics, Integrity & Aptitude and so on) for efficient study.
- Background information has been added to provide context.
- Related and Additional information-dimensions have been explained to add depth to your understanding.
- Maps and figures have been provided for associative and retentive learning.
- Practice Questions

PART TWO | ETHICS, INTEGRITY & APTITUDE

- Coverage from varied sources

PART THREE | ESSAYS FOR YOU

- Selected essays from Rau's GSI students

For further understanding or discussion in any topic, please consult your respective professors.

Good Luck!
RAU'S IAS STUDY CIRCLE

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PART ONE

CURRENT AFFAIRS

**logical .simple .targeted
analysis & explanation
of all relevant news of the month**

ECONOMIC DEVELOPMENT

GS PAPER (PRELIMS) & GS PAPER III (MAIN)

IDENTIFYING BASE YEAR

#NATIONALINCOME #GROWTH #INFLATION

PRIMARY SOURCE | THE HINDU

WHAT IS A BASE YEAR?

A base year is a reference year used to measure important economic indicators like GDP, CPI/WPI, IIP etc.

What is a Purpose for Fixing a Base Year?

- **Providing a reference point:** The base year serves as a fixed reference point to measure changes in economic variables like GDP, IIP or CPI over time. It allows for meaningful comparisons of these indicators across different time periods.

- **To differentiate quantity from value:** A reference year is necessary to arrive at right measure of production activities in the economy like GDP by removing the impact of inflation.

- **Composition of indices:** Composition of indices like CPI/WPI should be relevant to contemporary consumption patterns.

- **Fixing Weightage:** The base year is used to fix the relative weights of different goods and services in the calculation of various economic indicators.

- **Facilitating international comparisons:** When countries use a common base year, it enables better comparison of economic indicators like GDP and inflation across different economies.

FIXING A BASE YEAR

- The base year is typically updated periodically (e.g., every 5-10 years) to ensure the economic indicators remain representative of the current economic structure and consumption patterns.

- In India, the practice was to revise the base ever 5 years, so as to coincide with quinquennial rounds of the NSSO. However, since 2004-05, base year revision has been staggered due to several reasons.

- With the financial crisis of 2009-10, 2011-12 was chosen as the base year instead of 2010-11 and the updated series was released only in 2015.

NEED FOR REVISION OF BASE YEAR IN INDIA

- **Old basket:** We continue to monitor a basket of goods that includes torches, radios, tape recorders, CDs, DVDs, audio/video cassettes, and trunks, among some 300 other items which no longer reflect the consumption patterns of the public.

- **Disproportionate weights:**

  - The weightage of food in the CPI basket has decreased from 60.9 (in 1960) to 57.0 (in 1982) and to around 45% (present). This gradual decline indicates that as the economy grows, the proportion of income spent on food decreases. (**Engel's Law** suggests that as income rises, the proportion of income spent on food falls, even if the absolute expenditure on food rises.).

  - Additionally, inflation data under-represents services in the consumption basket. In production, services are about 55% of the GDP but have no representation in WPI and about 24% in CPI.

CHALLENGES

- **Finding the right reference year:**

  - The reference year must be a normal year with no significant volatility in GDP or Inflation and also be devoid of any structural reforms made in the economy like GST etc.

  - Keeping a year with too high growth or too low growth may as base year will eventually result in "high base effect" in the following years.

- **Lack of relevant consumer date:** A new nationwide consumer expenditure survey is long overdue. The last two such nationwide sample surveys were carried out in 2011-12 and 2017-18. Unfortunately, the results of the 2017-18 survey were not released on grounds of unexplained "data quality issues".

INFORMAL SECTOR

#EMPLOYMENT

PRIMARY SOURCE | *The Indian* **EXPRESS**

Outcomes of the Annual Survey of Unincorporated Enterprises of 2021-22 and 2022-23 were released by the National Sample Survey Office (NSSO) recently. It highlights that over the last 7 years, many units have shut, 16.45 lakh jobs have been lost in the non-farm informal economy.

WHAT DOES THE SURVEY HIGHLIGHT?

- **Understanding Impact of Economic Shocks:** Data from these surveys help to understand the impact of the sudden withdrawal of cash from the system (2016), of regulatory compliances and inclusion in the tax net (2017), and of the national lockdown (2020-21), the brunt of which was borne by the informal sector.

- **Deterioration in Quality of Employment:** Most new jobs in the sector were created in own-account enterprises rather than hired-worker units. This indicates a deterioration in the quality of employment as units shifted to self-owned units, that is, households or one-person units rather than hired-worker units, which are typically a source of labour-intensive enterprises, especially in manufacturing.

- **Reduction in Employment:** As the economy moved to more capital-intensive manufacturing, the data indicate a dent in employment in labour-intensive manufacturing in the unorganised sector. Overall, the number of workers employed in the informal sector in 2022-23 dropped by 1.5% from 2015-16.

WHAT IS THE INFORMAL SECTOR?

- The **formal sector** has a written contract between the employer and the employee, as well as pre-defined labour conditions. This sector is made up of a well-organised group of people who operate in the same environment and are legally and socially conscious of their rights.

- **Informal Sector:** All unincorporated private enterprises owned by individuals or families involved in the sale and production of products and services on a proprietary or partnership basis are classified as informal.

WHAT IS THE IMPORTANCE OF THE INFORMAL SECTOR IN INDIA?

- The informal sector **accounts for almost 50% of India's economic output** and **more than 75% of employment.**

- The informal sector **plays a crucial role in generating jobs and absorbing especially semi-skilled and unskilled labour.**

- It is closely watched for employment trends, especially when there is a slowdown in the formal sector.

CHALLENGES RELATED TO INFORMAL SECTOR IN INDIA

- **Low-Productivity Trap:**
  - Conditions in the informal sector hampers workers' effort to get financially better-off as they are unable to acquire new skills and access the full suite of reasonably priced and regulated financial services.
  - The nature of the informal economy disincentives the employer from investing in productivity-enhancing tools and training workers to use them, since the payoff time horizon is longer than the workers' tenure. Besides, informal employers themselves do not have the wherewithal to invest in worker productivity.

- **Absence of Social Security:** Although workers in the unorganised sector are often completely dependent on the government for social protection, they are not effectively covered by the statutory provisions applicable to those in the organised economy. This keeps them entrenched in poverty.

- **Higher Participation of Women:** Women make up the majority of informal participants, yet they receive the fewest benefits and face lower salary, income volatility, and a lack of a strong social safety net. It has also greatly hampered women's labour-force participation.

- **Lack of Employment Protection:** Informal employment, by definition, lacks a written contract, paid leave, and hence does not pay minimum wages or pay attention to working conditions. The breadth and efficacy of the 2019 Wage Code for the informal economy remain limited. If a state government refuses to include a certain job inside a given sector, it is not covered by the minimum wage criterion.

- **Tough Working Conditions:** Working hours that exceed labour standards are widespread in India's unorganised sector. There is no defined working hour in the agriculture sector in particular because there are

no laws that can serve as a guideline for farm workers' working conditions.

- **Outside Tax Bracket:** Because the informal economy's firms are not directly regulated, they typically dodge one or more taxes by concealing revenue and expenses from the legal system. This is a problem for the government because a large portion of the economy is not taxed.

- **Estimation Challenges:** There are no official statistics available that reflect the true state of the economy, making it difficult for the government to formulate policies affecting the informal sector in particular and the economy as a whole.

WHAT ARE THE INITIATIVES TAKEN TO SUPPORT THE UNORGANISED SECTOR?

- **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)** to protect unorganised workers who perform work like street vendors, agriculture related work, construction site workers, workers in industries of leather, handloom etc.

- **Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)** to create employment for the unskilled or semi-skilled workers by providing incentives to the employers. The government will contribute 12% in EPF for the employees for three years.

- **PM SVANidhi:** Micro Credit Scheme for Street Vendors, hawkers and people involved in goods and services related to textiles, apparel, artisan products, barbers shops, laundry services etc. in different areas.

- **PM Garib Kalyan Ann Yojana (PMGKAY)** to supply free food grains to migrants and the poor.

- **e-SHRAM Portal:** Creation of a centralised database of all unorganised workers to improve the implementation efficiency of the social security services for the unorganised workers.

- **One Nation One Ration Card (ONORC)** scheme to provide universal access to PDS food grains for migrant workers. Government is in the process of integrating the e-Shram portal with the One Nation One Ration Card scheme.

- **Atmanirbhar Bharat Rozgar Yojana** for creation of new employment opportunities during the Covid-19 economic recovery phase.

WHAT SHOULD BE THE WAY FORWARD?

- **Policy and Regulatory Framework:** Further simplifying the Goods and Services Tax (GST) regime

will ensure easier compliance. Streamline labour laws to make them more flexible and employer-friendly while ensuring worker protection.

- **Access to Credit:** Enhance access to formal financial services for informal workers and businesses through microfinance and small-scale lending.

- **Financial Support for Formalisation:** Giving financial support to help small-scale industries stand on their own is a crucial step in bringing them to the organised sector. Schemes like MUDRA loans and Start-up India are helping the youth carve a niche in the organised sector.

- **Skill Development and Training:** Implement large-scale vocational training programs tailored to the needs of informal sector workers. Additionally, providing training and resources to promote entrepreneurship and support small businesses transitioning to the formal economy.

- **Technology Adoption:** Encourage the adoption of technology in business operations to improve efficiency and record-keeping.

- **Legal Identity and Documentation:** Leveraging Aadhaar to provide legal identity and access to government schemes. Whereas, simplifying the process of business registration to bring more informal businesses into the formal sector.

CONCLUSION

Formalising the informal economy requires a multifaceted approach that addresses structural, financial, and social barriers while ensuring the inclusion and protection of informal workers and businesses.

FOOD INFLATION
#INFLATION #AGRICULTURE

PRIMARY SOURCE | The Indian EXPRESS

Consumer price inflation rose in June after three consecutive months of moderation due to a spike in vegetable prices halting a disinflationary trend underway in the economy.

FACTORS LEADING TO FOOD INFLATION

- **Cobweb Phenomenon:** The cobweb phenomenon in agricultural economics refers to the situation where the supply of a particular crop responds to prices with a lag. Farmers decide what to plant based on the prices they received in the previous season.

- If prices were high, more farmers plant that crop the next season, leading to a surplus and a subsequent drop in prices.

- Conversely, if prices were low, fewer farmers would plant it, leading to a shortage and a rise in prices. This lag in production response can trigger cyclical price fluctuations, making the market unstable and contributing to food inflation.

- **Cascading Effect:** It refers to the accumulation of costs as vegetables pass through multiple intermediaries before reaching the consumer. Each intermediary, including wholesalers, transporters, and retailers, adds a margin to cover costs and profit. Additionally, various levies and charges imposed at different stages further escalate prices. This multi-layered structure leads to higher retail prices, exacerbating food inflation.

- **Perishable Nature of Vegetables:** Vegetables are highly perishable and require a well-maintained cold chain infrastructure to extend their shelf life. The lack of such infrastructure in many parts of India results in high post-harvest losses. Without adequate cold storage and transportation facilities, a significant portion of the produce spoils before reaching consumers, reducing effective supply and contributing to higher prices.

- **Inadequate Infrastructure:**

  - **Lack of Cold Storage Facilities:** The absence of adequate cold storage infrastructure means that vegetables, which are perishable, often spoil before reaching the market. This spoilage reduces supply and pushes prices higher.

  - **High Transportation Costs:** Poor road conditions, inefficient transport systems, and long distances between production areas and markets increase transportation costs, which are passed on to consumers.

  - **Lack of Food Processing Facilities:** Without sufficient food processing facilities, surplus produce during peak seasons cannot be preserved or processed, leading to wastage and supply shortages during off-peak seasons.

- **Demand-Supply Gap:** Tomatoes and other vegetables are grown and harvested at different times across various regions in India. This staggered production creates periods of glut and scarcity. For instance, if one region's harvest is delayed or reduced due to adverse weather, it creates a temporary supply gap, driving prices up. Conversely, simultaneous harvesting in multiple regions can lead to a temporary surplus and lower prices.

- **Weather Disturbances: Extreme weather events, such as high temperatures and unusual rain spells, have a signi**ficant impact on vegetable production. High temperatures can damage crops, reduce yields, and shorten shelf life, while excessive rainfall can cause flooding, waterlogging, and increased pest infestations. This year, such weather disturbances, particularly in northern states, have disrupted vegetable production, leading to supply shortages and increased prices.

GOVERNMENT INTERVENTION

- **Export Restrictions:** To ensure domestic availability and control prices, the government may impose export restrictions on certain vegetables such as imposition of Minimum Export Price (MEP) on onion, parboiled rice etc. By limiting exports, the government aims to increase domestic supply, thereby stabilising prices.

- **Import from International Markets:** When domestic supply is insufficient, the government may facilitate imports from international markets to bridge the demand-supply gap and stabilise prices. Importing vegetables helps ensure availability and prevents excessive price hikes.

- **Stock Limits on Traders:** Under the Essential Commodities Act, 1955, and the Prevention of Black Marketing and Maintenance of Supplies of Essential Commodities Act, 1980, the government can impose stock limits on traders. These limits prevent hoarding and black marketing, ensuring that vegetables are available to consumers at reasonable prices.

- **Distribution Through Organised Channels:** The government promotes distribution through organised channels such as cooperatives (Safal outlets) and farmer producer organisations (FPOs). These channels can reduce the number of intermediaries, lowering costs and ensuring fair prices for both producers and consumers.

- **Price Stabilization Fund:** The Price Stabilization Fund is used to regulate the prices of perishable commodities. The fund allows the government to purchase excess stock during periods of surplus and release it during shortages, thus stabilising prices.

- **Operation Greens:** Operation Greens aims to enhance production and reduce price volatility of tomatoes, onions, and potatoes (TOP). The initiative promotes farmer producer organisations (FPOs), improves agri-logistics, and develops processing facilities to manage surplus produce and ensure stable prices.

- **Price Monitoring:** The Department of Consumer Affairs monitors the prices of onions and 21 other food commodities. This monitoring helps identify and address price anomalies, ensuring timely intervention to stabilise prices.

- **Buffer Stocks:** The government maintains buffer stock and offloads from it under the Open Market Sales Scheme (OMSS).

- **Food Security Scheme:** Pradhan Mantri Garib Kalyan Ann Yojana was launched to provide free food grains to more than 80 crore beneficiaries.

Measures to contain food inflation such as export ban, OMSS and imposition of stock limits results in a collective loss of farmers' income. Adoption of such market-distorting policy measures indicates a bias in favour of consumers (compared to farmers i.e., producers) in India's food price policy.

WAY FORWARD

- **Reformed Trade Policy:** Export restrictions should be timely and for a specified duration, addressing immediate concerns without causing long-term market distortions. Monitoring and Adjustment: Continuous monitoring of market conditions allows for adjustments to export policies as needed, ensuring they remain relevant and effective.

- **Rationalise Price Stabilisation System:** To effectively manage food inflation, it is essential to rationalise the price stabilisation system. This involves improving the efficiency and responsiveness of interventions, ensuring that they are timely and targeted. NAFED should procure at least 2-3L tonnes of onion at rabi harvest time.

- **Price Deficiency Payment System:** Implementing a price deficiency payment system can provide farmers with direct compensation for the difference between the market price and a predetermined benchmark price. This ensures farmers receive fair compensation while preventing market distortions.

- **Invest in Storage Infrastructure & Agri-Logistics:** Investing in storage infrastructure, including cold storage and warehousing, is crucial to reducing post-harvest losses. Improved agri-logistics, such as efficient transportation networks, can lower costs and ensure timely delivery of produce.

- **Food Processing:** Adopting a cluster approach in agro-processing can enhance efficiency and scale. By developing clusters of processing units in key production areas, economies of scale can be achieved, reducing costs and improving the overall supply chain.

CONCLUSION

By addressing these factors comprehensively, India can mitigate the impact of food inflation, ensuring both farmers and consumers benefit from a stable and efficient market system.

IMPACT OF BAD LOANS: WHAT, WHY AND HOW

#BANKING #ECONOMY

PRIMARY SOURCE | THE HINDU

Though Indian banks are in the pink of health, the RBI is worried about slippages and delinquencies.

WHAT ARE NPAs?

Non-Performing Assets (NPA): An asset that is not returning in the form of principal or interest during the last 90 reporting days is classified as NPA.
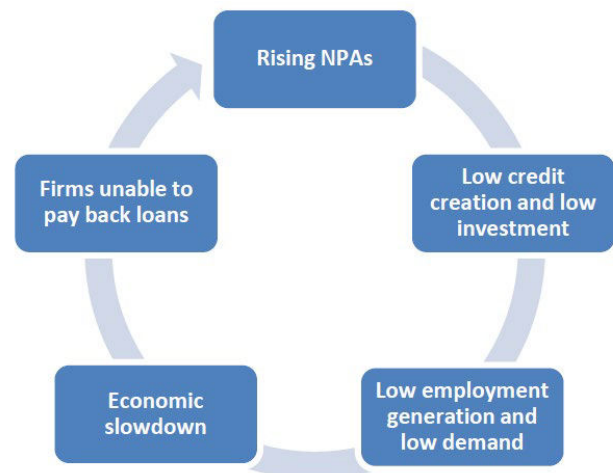
Vicious cycle of NPAs

WHAT WERE THE REASONS FOR INCREASE IN NPAs?

- **Over-optimism of Banking Sector:** A larger number of bad loans originated in the period 2006-2008 when economic growth was strong, and previous

infrastructure projects such as power plants had been completed on time and within budget. It is at such times that banks did not follow diligence in extending fresh loans anticipating future economic growth.

- **Slow-Growth:** Financial crisis of 2008 led to slower economic growth which in turn affected profits of companies and reduced their ability to pay back loans.
- **Policy Related Factors:**
  - **Volatile Regulatory Framework:** Past few years in India saw a volatile regulatory framework which built stress in certain industries. Some examples include mining ban in certain southern Indian states, decision to cancel and re-auction the telecom airwaves etc. This caused significant financial and operating stress in companies engaged in the mining, telecom and infrastructure sectors which had a cascading effect on overall investments in the Indian economy.
  - **Loan Waivers:** Announcement of farm loan waivers by the Central Government and various state governments has affected the credit culture in India.
- **Industry Specific Risks:** There are industry-specific reasons that cause a rise in NPA levels in India. Sectors which were seeing increased stress are aviation, textile and telecom among others. The higher NPAs in the aviation sector could be attributed to the high cost of aviation turbine fuel which accounts for 45% of total operating costs, as compared to the global average of 30%. Similarly, increasing competition and consequently irrational pricing behaviour among telecom players has led to higher stress levels.
- **Banking System Deficiencies:**
  - **Poor Credit Appraisal System:** The Banks have not developed sufficient capability to undertake credit appraisal before giving loans.
  - **Diversion of Loans:** The poor end-use monitoring system of the Banks has led to diversion of funds by the companies for other wasteful purposes.
  - **Frauds:** The system has been ineffective in bringing even a single high-profile fraudster to book. It was only after the NPA crisis, the RBI set up a fraud monitoring cell to coordinate the early reporting of fraud cases to the investigative agencies.
  - **Political Interference in Working of PSBs:** NPAs are mainly concentrated in the Public Sector Banks

which could be linked to their poor governance and political interference.

  - **Lack of Integrated database on Credit Information:** Presently, credit related information is captured by multiple agencies without proper coordination. Further, RBI's proposal to create a Public Credit Registry faces legal challenges.
- **Wilful Defaulters:** There has been an increase in the number of wilful defaulters, who have failed to repay back the loans in spite of having the capability to do so. This can be attributed to lack of proper mechanism to deal with wilful defaulters.
- **Ineffective Recovery Tribunal:** There has been undue delay in the resolution of cases before the debt recovery tribunals leading to higher NPAs.

IMPACT OF HIGHER NPAs

- **Profitability:** On an average, banks are providing around 25% to 30% additional provision on incremental NPAs which has direct bearing on the profitability of the banks.
- **Asset (Credit) Contraction:** Increased NPAs put pressure on recycling of funds and reduces ability of banks for lending more and thus results in lesser interest income. It contracts money stock which may lead to economic slowdown.
- **Liability Management:** In light of high NPAs, banks tend to lower interest rates on deposits on one hand and likely to levy higher interest rates on advances. This may become a hurdle in the smooth financial intermediation process and hampers banks' business as well as economic growth.
- **Capital Adequacy:** As per Basel norms, banks are required to maintain adequate capital on risk-weighted assets. Every increase in NPA level adds to risk weighted assets which requires the banks to shore up their capital base further. In case of PSBs, it may put additional burden on the Government for recapitalisation of PSBs.
- **Shareholders' Confidence:** Increased NPA level is likely to have adverse impact on the bank business as well as profitability thereby the shareholders do not receive a market return on their capital and sometimes it may erode their value of investments.
- **Public Confidence:** Credibility of the banking system is also affected greatly due to higher level NPAs because

it shakes the confidence of the general public in the soundness of the banking system.

Thus, the increased incidence of NPAs not only affects the performance of the banks but also affects the economy as a whole. In a nutshell, the high incidence of NPA has cascading impact on all important financial ratios of the banks viz., Net Interest Margin, Return on Assets, Profitability, Dividend Payout, Provision coverage ratio, Credit contraction etc., which may likely to erode the value of all stakeholders including Shareholders, Depositors, Borrowers, Employees and public at large.

STEPS TAKEN TO ADDRESS GROWING NPAS BY RBI

- **Loss Recognition:** RBI has mandated the banks to carry out Asset Quality Review (AQR) in order to know the true status of their Balance Sheets and prevent them from evergreening of Loans.

- **Prompt Corrective Action (PCA):** RBI monitors the financial health of the Banks through various parameters such as NPA, Capital Adequacy etc in order to ensure their soundness and prevent them from further losses.

- **Identification of Incipient Stress:** RBI has mandated the Banks to identify the incipient stress in their loans by classifying Special Mention Account (SMA) into 3 different categories so as to enable the Banks to take corrective action before classifying them as NPAs.

- **Simplification of Resolution of Bad Loans:** RBI has replaced multiple schemes such as Strategic Debt Restructuring (SDR), Sustainable Structuring of Stressed Assets (S4A), 5/25 Scheme etc with comprehensive Prudential Framework for resolution of stressed assets.

- **Collection of Credit Information:** RBI has set up a Central Repository of Information on Large Credits (CRILC) on all borrowers having an aggregate exposure of Rs 5 crore and above. It was created for early recognition of financial distress, enabling prompt action for resolution and fair recovery for lenders and as part of a framework for revitalising distressed assets in the economy.

STEPS TAKEN BY GOVERNMENT

- **Insolvency and Bankruptcy Code, 2016 (IBC)** has been enacted to create a unified framework for resolving insolvency and bankruptcy matters.

- **Banking Regulation Act, 1949** has been amended to provide for authorisation to RBI to issue directions to banks to initiate insolvency resolution process under IBC.

- **Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002** has been amended to make it more effective with provision for three months imprisonment in case the borrower does not provide asset details and for the lender to get possession of mortgaged property within 30 days. Six new Debts Recovery Tribunals have been established to expedite recovery.

- **Indradhanush Mission:** Reforming the Governance of PSBs and infusing more capital into PSBs.

- **Project Sashakt:** It has been adopted on recommendations of Sunil Mehta Committee, which provided for a 5-pronged strategy to deal with NPAs.

IMPACT: DECLINING NPAs

- **Drop in Slippage Ratio:** The slippage ratio is the rate at which good loans are turning bad. It is measured by:
  - (Fresh accretion of NPAs during the year/Total standard assets at the beginning of the year) * 100
  - The slippage ratio is around 2% in September 2022 for SCBs, which is the lowest since 2015. Low slippage shows how well the asset qualities are managed by the bank.

- **Increasing Write-offs:** Banks voluntarily choose to write off NPAs to maintain healthy balance sheets. According to the data given by the Finance ministry, banks had written-off bad loans worth ₹ 10,09,511 crore in the last 5 years. In the first half of FY 2022-23, the loan write-offs as a ratio of GNPAs increased to 22.6%.

These factors not only helped in reducing the share of bad assets but also increased the profitability of scheduled commercial banks in the last one year.

CONCLUSION

Following the measures taken by both the government and the RBI, NPAs in the Indian Banking sector have reduced substantially. The Reserve Bank of India (RBI), in its latest Financial Stability Report for June, highlighted achievements in India's financial landscape. The report reveals that the gross non-performing assets (GNPAs) of scheduled commercial banks (SCBs) have reached a multi-year low of 2.8% as of March 2024.

ORGANIC FARMING IN INDIA

#AGRICULTURE

PRIMARY SOURCE | BusinessLine

A draft National Programme for Organic Production (NPOP), 2024, proposes a unique identification (ID) for farmers interested in organic farming.

STATUS OF ORGANIC FARMING IN INDIA

- India ranks first in number of organic farmers and ninth in terms of area under organic farming.
- The total area under organic certification process (registered under National Programme for Organic Production) is 3.67 million Hectare (2019-20).
- Among all the states, **Madhya Pradesh** has covered the largest area under organic certification followed by Rajasthan and Maharashtra.
- In 2016, Sikkim became the first State in the world to become fully organic and other States including Tripura and Uttarakhand have set similar targets.

OPPORTUNITIES

- High demand for organic farming food products fetches higher prices for farmers.
- Healthy Foods without any pesticide and insecticide residue.
- Improvement in Soil Quality due to enhanced microbial activity under organic farming
- Increased Crop Productivity and Income
- Low Incidence of Pests due to adoption of bio-control methods.
- Organic farming requires more labour input than the conventional farming system and thus promote more employment opportunities.
- Under severe drought conditions, organically managed farms have frequently been shown to produce higher yields than conventionally managed farms due to the higher water-holding capacity of organically farmed soils.
- Indirect Benefits: Eco-tourism, protection of the ecosystem, flora, fauna and increased biodiversity

ISSUES AND CHALLENGES

Even though India accounts for 30% of global organic producers, it accounts for only around 2.5% of the global area under organic cultivation. Some of the reasons for poor coverage of organic farming include:

- **Poor Awareness:** Use of bio-fertilizers and bio pesticides requires awareness. Farmers lack knowledge of compost making using the modern techniques and its application.
- **Shortage of Biomass:** The crop residues are mainly used as fodder and fuel. The small and marginal cultivators have difficulties in getting the organic manures compared to the chemical fertilisers.
- **Inadequate Supporting Infrastructure:** Poor Certification of Organic products; absence of market for organic products; higher prices of organic products etc.
- **Higher Input Costs:** Costs of the organic inputs are higher than those of industrially produced chemical fertilisers and pesticides. Neem cake, vermi-compost, cow dung etc. which are applied as organic manure are increasingly becoming costly making them unaffordable to the small cultivators.
- **Transition period:** When a farmer shifts to organic farming from conventional farming, yields have been shown to have a significant drop. However, yields tend to increase with the number of years under organic management as farmers gain experience and soil improves.
- **Lack of quality seeds supporting organic agriculture:** Hybrid seeds are designed to respond to fertilisers and chemicals.
- **Inability to meet the export demand:** Indian organic exports face different constraints such as high price expectations in relation to quality, chemical residues, time consuming and complicated paperwork etc.

INITIATIVES TAKEN BY GOVERNMENT TO PROMOTE ORGANIC FARMING

- **Standards for Organic Foods:** Any organic food manufactured, sold and marketed is regulated as per the provisions of Food Safety and Standards (Organic Food) Regulations, 2017.
- India has adopted two Organic Certification:
  - **National Programme for Organic Production (NPOP)** for Exports. Under the Ministry of Commerce and Industry. NPOP certification is facilitated by Agriculture Processed Food and Export Development Authority (APEDA).

- ○ **Participatory Guarantee System (PGS)** for Domestic and Local markets. Under the Ministry of Agriculture**.** Implemented by Ministry of Agriculture with National Centre for Organic Farming (NCOF) acting as its secretariat.
  - ○ **Note:** The Jaivik Bharat logo for Organic Food is an identity mark to distinguish organic products from non-organic ones.
- **Paramparagat Krishi Vikas Yojana (PKVY)**: The scheme promotes cluster based organic farming with **Participatory Guarantee System(**PGS certification). Cluster formation, training, certification and marketing are supported under the scheme.
- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)**: Development of certified organic production in a value chain mode to link growers with consumers. It provides support for the development of the entire value chain starting from inputs, seeds, certification and creation of facilities for collection, aggregation, processing, marketing and brand building initiative.

WAY FORWARD

- Supply of sufficient nutrient through organic management, Promotion of Green manures, vermi-composting
- Promotion of strategies such as Integrated Organic Farming Systems, Multiple Cropping and crop rotation, Hedge row/alley cropping
- Biological pest management and biological weed management strategies need to be promoted.
- Making it easier for farmers to certify their food products and market them.

REDUCING POST-HARVEST LOSSES
#AGRICULTURE

PRIMARY SOURCE | THE HINDU

India's post-harvest losses amount to approximately ₹1,52,790 crore annually, according to a Ministry of Food Processing Industries 2022 study.

WHAT ARE POST-HARVEST LOSSES?

- The post-harvest system should be thought of as encompassing the delivery of a crop from the time and place of harvest to the time and place of consumption.

- The expression "post-harvest losses" means a measurable quantitative and qualitative loss in a given product. These losses can occur during any of the various phases of the post-harvest system.
- From the harvest onward, then, the grain undergoes a series of operations during the course of which quantitative and qualitative losses can occur.

WHAT IS THE PRESENT STATUS OF INDIA'S HIGH POST-HARVEST LOSSES?

- India's post-harvest losses amount to approximately ₹1,52,790 crore annually, according to a Ministry of Food Processing Industries 2022 study.
- The biggest loss is from perishable commodities, which include livestock produce such as eggs, fish and meat.
- During the export of perishables, approximately 19% of food is lost.

WHAT ARE THE CAUSES BEHIND INDIA'S HUGE POST-HARVEST LOSSES?

Direct Causes

- **Premature harvest** results in lower quality and quantity.
- **Poor threshing**: Inefficient separation of grain from stalks results in loss of produce.
- **Insufficient drying** leads to spoilage and mould growth.
- **Insufficient cleaning**-> contamination and quality degradation.
- **Bird, Rodent, and Insect Attacks**
- **Improper storage conditions**
- **Poor handling and transportation** can lead to physical damage and loss.

Indirect Causes

- **Inadequate capital**: Farmers often lack the financial resources to invest in modern equipment, storage facilities and modern machinery for harvesting, threshing, drying, and cleaning.
- **Lack of professionalism**: Limited access to training and education on best post-harvest practices.
- **Lack of Organization**: Fragmented supply chains and lack of coordination among stakeholders.
- **Social Constraints**: Issues such as land fragmentation and small farm sizes affect efficiency.

- **Economic Constraints**: Market inefficiencies and price volatility impact farmers' ability to invest in post-harvest technologies.
- **Political Constraints**: Inadequate policy support and lack of investment in agricultural infrastructure.

Why we should reduce post-harvest losses?

- To maintain the quality of the product.
- To increase the agro-export potential.
- To double the farm income.
- To ensure food security in the country.
- To reduce price volatility.
- To reduce the waste and make agriculture environment friendly.

> A report from the Food and Agriculture Organization of the United Nations (FAO) using the life cycle perspective, estimated about 3.3 Gtonnes of CO2 equivalent emissions due to food that was produced but not eaten, without even considering the land use change

WHAT STEPS SHOULD BE TAKEN TO REDUCE POST HARVEST LOSSES?

- **Investing In adequate storage facilities:** India's tropical climate can be bad news for the quality of perishable crops, and there need to be proper climate-controlled storage facilities as well as cold-storage facilities.
- **Ensuring appropriate harvesting methods at the right stage:** When the produce has completed its natural growth and is all set for harvesting. It is also important to use the most suitable harvesting methods to prevent losses from premature or delayed harvesting.
- **Effective handling and transportation to reduce damage:** as the majority of the losses take place during the transportation stage. Rough handling can also cause damage to the crops. They should be properly packed for better protection, ventilation, and labeling. This along with choosing the right vehicle and other tools can go a long way in preserving the produce during transportation.
- **Following the process of sorting & grading for better quality control:** There need to be higher standards for post-harvest handling and grading. This helps in identifying damaged or low-quality produce, following which the produce can be sorted, which is

essentially the removal of bad crops from healthy ones. The continuous check on quality control invariably helps in reducing post-harvest loss.

- **Upgradation of grain drying equipment:** This assistance encompasses a range of options, including the provision of basic materials like tarpaulins and covers, as well as more advanced grain drying equipment and shelters that offer protection against rainfall. By enabling farmers to access improved drying solutions, we can effectively reduce food losses and improve overall grain quality.

DRAFT DIGITAL COMPETITION BILL

#DIGITALINDIA #INDUSTRY

PRIMARY SOURCE | THE HINDU

In February 2023, the Ministry of Corporate Affairs (MCA) constituted a Committee on Digital Competition Law (CDCL) to examine the need for a separate law on competition in digital markets. The CDCL deliberated on the issue for a year and came to the conclusion that there was a need to supplement the current ex-post framework under the Competition Act, 2002 with an ex-ante framework. It laid out this ex-ante framework in the draft Digital Competition Bill.

WHAT IS AN EX-ANTE FRAMEWORK?

- The **Competition Act, 2002** is the primary legislation concerned for preventing practices that have an adverse effect on competition. It **establishes the Competition Commission of India (CCI) as the national competition regulator.**
- As with competition law in all other jurisdictions, the Competition Act, 2002 is based on an **ex-post framework.** This means that the **CCI can use its powers of enforcement only after the anti-competitive conduct has occurred.**
- In the case of digital markets, the CDCL has advocated for an **ex-ante competition regulation.** This means that they want the CCI's enforcement powers to be supplemented such that it **allows it to pre-empt and prevent digital enterprises from indulging in anti-competitive conduct in the first place.**

NEED FOR EX-ANTE FRAMEWORK?

Ex-ante competition regulation is unusual. The European Union is the only jurisdiction where a comprehensive ex-ante competition framework, under the Digital Markets Act, is currently in force. The CDCL agrees with this approach because of the unique characteristics of digital markets:

- First, **digital enterprises enjoy economies of scale** and economies of scope, that is, reduction in cost of production per unit as the number of units increase and reduction in total costs of production with increase in number of services respectively. **This propels them to grow rather quickly as compared to players in the traditional market.**

- Second, **this growth is aided by network effects** — utility of the digital services increases with the increase in the number of users. In this context, given that markets can tip relatively quickly and irreversibly in favour of the incumbents, it was found that the **extant framework provided for a time consuming process, allowing offending actors to escape timely scrutiny.**

Therefore, the CDCL has advocated for preventative obligations to supplement the ex-post facto enforcement framework.

WHAT IS THE DRAFT'S BASIC FRAMEWORK?

- The draft Bill **follows the template of the EU's Digital Markets Act**.

- It does not intend to regulate all digital enterprises, and places obligations only on those that are "dominant" in digital market segments. At present, the draft Bill identifies ten 'core digital services' such as online search engines, social networking services, video sharing platform services etc.

  - The **draft Bill prescribes certain quantitative standards for the CCI to identify dominance of digital enterprises**. These are based on the 'significant financial strength' test which looks at financial parameters and 'significant spread' test based on the number of users in India.

  - Even if the digital enterprise does not meet quantitative standards, the **CCI may designate an entity as a "systemically significant digital enterprise (SSDE)" based on qualitative standards**, if the competition regulator is of the opinion that the entity has a significant presence in the identified service.

- The **primary obligation of SSDEs** is to not indulge in anti-competitive practices.

  - These require the SSDE to **operate in a fair, non-discriminatory and transparent manner with its users.**

  - The draft Bill **prohibits SSDEs from** favouring its own products on its platform over those of third parties **(self-preferencing)**; **restricting availability of third party applications** and not allowing users to change default settings; **restricting businesses users of the service from directly communicating with their end users** (anti-steering) and **tying or bundling of non-essential services** to the service being demanded by the user.

  - SSDEs also **cannot cross utilise user data collected from the core digital service for another service** and non-public data of users cannot be used to give unfair advantage to the SSDE's own service.

CONCERNS

- **Scepticism:** There is **considerable scepticism on how well an ex-ante model of regulation will work.** This stems in part from the fact that it seems to be transposed from the EU to India without taking into account differentiating factors between the two jurisdictions and the lack of evidence of it actually working well there.

- **Effects on Start-ups:** This is compounded by concerns of its potential negative effects on investments for start-ups in India and that they might be deterred to scale up to prevent meeting quantitative thresholds.

- **Impact on MSMEs Competitiveness:** Studies have also shown that restrictions on tying and bundling and data usage would negatively impact MSMEs that have come to rely significantly on big tech to reduce operational costs and enhance customer outreach.

- **Enhanced Regulatory Burden:** A group of Indian start-ups have argued for a revision of financial and user based thresholds citing concerns that it may lead to domestic start-ups being brought within the regulatory net.

INTERGENERATIONAL EQUITY IN PUBLIC FINANCE

#FISCALPOLICY #INCLUSIVEGROWTH

PRIMARY SOURCE | THE HINDU

The devolution of Union tax revenue to States is a topic that has been in discussion in the political sphere and the argument is that intergenerational equity should be a factor in India's horizontal distribution formula for tax devolution.

WHAT IS INTERGENERATIONAL EQUITY?

- Intergenerational equity ensures that the decisions or actions of current generations should not burden the future generation.

- From a public finance point of view, it refers to a situation where every generation pays for the public services it receives and does not burden the future generation through borrowings.

SOURCES OF REVENUE

For any government, there are only two ways to raise its revenue: tax or borrowing.

- If, in a period, the tax revenue equals the current expenditure of the government, then the current taxpayers pay for the public services they receive.

- If the government finances the current expenditure through borrowings, it means the future generation is going to pay higher taxes to repay this borrowing and interest. In other words, borrowing to meet the current expenditure of the government amounts to **intergenerational inequity.**

INTERGENERATIONAL INEQUITY IN FISCAL TRANSFERS

In India, being a federal country, the tax resources are shared between the Union and the states. As per article 270 of the Constitution, the net tax proceeds collected by the Union government are shared between the Centre and the States based on the formula given by the finance commission.

Criteria	Weightage
Income Distance	45%
Area	15%
Population (2011)	15%
Demographic Performance	12.5%
Forest and Ecology	10%
Tax and fiscal efforts	2.5%

- The formula has given higher weightage to criteria like *Income distance*, *Area* and *Population* which emphasised equity(intragenerational) over efficiency.

- As a result, fiscal resources are being transferred from developed states (Tamil Nadu, Maharashtra, Gujarat etc.) to underdeveloped states like Bihar, UP, Jharkhand forcing the developed states to borrow to meet their current fiscal needs.

- This results in **intergenerational inequity** in these states.

CONCLUSION

Thus, to balance intragenerational and intergenerational equity, it is necessary to give more weightage to variables such as **tax effort** and **fiscal discipline** in the horizontal devolution formula.

TRADE POLICY NEEDS A RESET

#EXTERNALSECTOR #MULTILATERALBODIES

PRIMARY SOURCE | The Indian EXPRESS

The vision 2047 seeks to outline a comprehensive roadmap for the country's development. It envisions India as a technology-driven economy, with an ambitious goal of catapulting into a developed economy within the next 25 years.

HOW IS INDIA TRANSFORMING ITSELF AS A TECHNOLOGY-DRIVEN ECONOMY?

The policy reforms taken in the wake of the 1991 economic crisis broke down trade barriers, attracted foreign investments, and fuelled economic expansion. **India's evolving domestic policy reforms are designed to promote its global integration** by aiming to **foster technology-driven and environmentally sustainable economic growth.**

- **Moving Towards Net-Zero Emissions:** The country, aiming for a low-carbon, resilient, and equitable transition, has committed to achieving net zero carbon emissions by 2070, and has made significant achievements in improving energy access and reducing greenhouse gas emissions.

- **Attracting Investments:** The country is a favoured choice for global investors. It secured the 3rd position in attracting FDI in 2022, after the US and China.

- **Expanding Manufacturing:** It aims to boost goods exports to $1 trillion by 2030, positioning itself as a manufacturing powerhouse.

- **Promoting E-Commerce:**
  - Globally, e-commerce routed exports are predicted to reach $2 trillion by 2030, offering India a substantial opportunity for export growth.
  - The desire to seize the opportunity presented by e-commerce has played a pivotal role in driving regulatory reforms in India by promoting digitisation, transparency, and operational efficiency within the business landscape.
  - These initiatives have led to reforms in critical areas such as data protection, consumer rights, competition and taxation, fostering a more conducive ecosystem for e-commerce enterprises to thrive.
  - India's data protection regulations aim to align with global standards.

WHAT INDIA NEEDS?

- In the present context, **India must** adeptly manage its growth trajectory, **emphasising digitisation, sustainable development, and resilient value chains** to **bolster its manufacturing sector.**
  - It is time India **breaks away from its traditionally held defensive positions**. Between 2000 and 2007, India's trade-to-GDP ratio surged from 12% to 23%, stabilising at this level.
  - To achieve the ambitious export targets and accelerate GDP growth, **the country aims for a higher trade-to-GDP ratio (ideally 30-35%).**

- To pursue these economic development objectives, **India needs policy predictability in key destination markets** like the US, the European Union, Japan, and other emerging economies, especially in high technology sectors.

- India's forward-looking approach to shaping multilateral disciplines in trade and investment matters has been demonstrated vividly through its active participation in G20 forums and bilateral trade and investment negotiations with economically advanced nations.

- A similar **proactive engagement strategy should also be extended to WTO negotiations**. It will be pivotal to achieving its national economic development objectives.

INDIA'S APPROACH IN WTO

- In India's evolving export-led economic growth model, the **emphasis laid on maintaining unrestricted right to pursue domestic policies.**

- As a result, its approach in multilateral bodies like WTO has been to **resist strong pressures to launch a comprehensive round of negotiations including multilateral regimes** on investment, competition policy, trade facilitation, government procurement and environment.

- India was **opposed to any such overburdening of the multilateral trading system with non-trade or new issues in the agenda.**

- It felt that WTO already had a sufficiently large agenda consisting of mandated negotiations and mandated reviews and therefore, India underlined the **need for resolving the implementation issues, arising from the current agreements in a time bound manner before addressing new issues for negotiations.**

WAY FORWARD

- For that, **the country must shed its hesitancy and actively participate in negotiations concerning e-commerce, trade, climate change, and investment facilitation within the WTO**.

- **Seeking international consensus on rules and disciplines** related to emerging economic issues and navigating the evolving geo-economic landscape **is in the country's best interest.**

- India's active participation in the WTO discussions is crucial, even for successful bilateral engagement subsequently with major markets. **Participation in these discussions will also allow India to build a leadership position in the Global South.**

- The country's lack of engagement, in any case, has not deterred other interested nations from forging a consensus among major economies regarding new

regulations in the realm of disruptive technologies or formulating unilateral carbon border adjustment measures inimical to Indian business interests.

CONCLUSION

- The rules of global economic governance are being reshaped in a world moulded by geoeconomics and emerging technologies, resilient global value chains and environmental sustainability. India, as a rising economy, has substantial stakes in this new paradigm.

- Achieving a new equilibrium of global rules will not be frictionless, yet **India's rising global stature demands that it plays a constructive role and projects its distinct personality in managing differences amidst changing dynamics.**

CAPITAL GAINS TAX

#FISCALPOLICY #GOVERNMENTBUDGETING #PRELIMSSNIPPETS

PRIMARY SOURCE THE HINDU

The Government in the Budget of 2024-25 has announced an increase in capital gains tax for both short-term and long-term transactions.

WHAT ARE CAPITAL ASSETS?

- Land, building, house property, vehicles, patents, trademarks, leasehold rights, machinery, and jewellery are a few examples of capital assets.

- The **following do not come under the category of 'capital asset'**:
  - Any stock, consumables or raw material, held for the purpose of business or profession.
  - Personal goods such as clothes and furniture held for personal use
  - **Agricultural land in rural India**
  - 6.5% gold bonds (1977) or 7% gold bonds (1980) or National Defence gold bonds (1980) issued by the central government
  - Special bearer bonds (1991)
  - Gold deposit bonds issued under the gold deposit scheme (1999) or **deposit certificates issued under the Gold Monetisation Scheme**, 2015 and Gold Monetisation Scheme, 2019 notified by the Central Government.

WHAT IS CAPITAL GAINS TAX IN INDIA?

- Any profit or gain that arises from the sale of a 'capital asset' is known as 'income from capital gains'. Such capital gains are taxable in the year in which the transfer of the capital asset takes place. This is called capital gains tax.

- There are **two types** of Capital Gains: **short-term capital gains (STCG)** and **long-term capital gains (LTCG)**.

CHANGES MADE IN THE BUDGET 2024-25

- For classifying assets into long-term and short-term, there will only be two holding periods: 12 months and 24 months.

- The **holding period for all listed securities is 12 months.** All listed securities with a holding period exceeding 12 months are considered Long-Term. **The holding period for all other assets is 24 months.**

- The **taxation of Short-Term Capital Gain (STCG)** for listed equity shares, a unit of an equity-oriented fund, and a unit of a business trust has been **increased from 15% to 20%.**

- The **tax on Long-Term Capital Gains (LTCG) on other financial and non-financial assets is reduced from 20% to 12.5%.** While on the other hand, the **indexation benefit** that was previously available on sale of long-term assets, **has now been done away with.**

- The **limit on the exemption of LTCG** on certain asset classes (transfer of equity shares or equity-oriented units or units of Business Trust) has increased from Rs.1 Lakh to Rs.1.25 lakh per year.

PURPOSE OF INDEXATION

- **Indexation ensures that taxpayers are taxed on real gains rather than gains at prevailing prices**. It seeks to deduct gains which are a result of general increase in prices, and not economic growth, during the course.

- For example, an individual bought a house for ₹10 lakh in 2001 and they are able to sell the same property in 2021 at ₹75 lakh. Here, it may appear that they gained ₹65 lakh and should be taxed accordingly.

- However, this **gain in the property prices may be** attributed **to reasons such as inflation and/or a vibrant property market.**

- Hence, we use **Cost Inflation Index (CII) to measure the impact of inflation** on the gains made by the seller of property.
  - The CII for the year in which the property is sold is divided with that of the purchase year to arrive at the inflation adjusted price of the property.
- Therefore, only the **difference between the selling price and inflation adjusted price** is **used to estimate the capital gains made by the seller.**
- An amendment is being made to The Finance Bill, 2024, to enable taxpayers to choose either of these two tax rates that work out lower for them, in cases involving transfer of immovable assets like land and building acquired before July 23 this year.

Implications of Removal of Indexation Benefit

- **Higher long-term capital gains (LTCG) tax liability** for properties sold.
- **Impact on popularity of investment instruments** like real-estate investment (REITs), infrastructure funds and bonds.
- Sale of properties at circle rates (minimum price at which a real estate is to be sold) as undervaluing the real estate helps furbish lower capital gains, thus, lesser taxation. However, this **may promote increased black money transactions in the sector.**

PROMPT CORRECTIVE ACTION (PCA) FRAMEWORK

#BANKING #PRELIMSSNIPPETS

PRIMARY SOURCE BusinessLine

The Prompt Corrective Action (PCA) framework is a set of guidelines used by the Reserve Bank of India (RBI) to evaluate banks. The RBI imposes the PCA framework on banks that show signs of financial stress.

WHAT IS PCA FRAMEWORK?

- The PCA framework considers banks to be risky if they fall below certain standards on various parameters measured by respective indicators.

	Capital	Asset Quality	Leverage	Profitability
Scheduled Commercial Banks	Capital to Risk weighted Asset Ratio (CRAR)	Net Non-Performing Advances (NNPA) ratio	Leverage Ratio	-
Urban Cooperative Banks	Capital to Risk weighted Asset Ratio (CRAR)	Net Non-Performing Advances (NNPA) ratio	-	Net Profit

- The PCA framework allows RBI to place certain restrictions on a bank like restricting their capital expenditure, Dividend distributions and branch expansion.

DEPOSIT INSURANCE IN INDIA

#BANKING #PRELIMSSNIPPETS

PRIMARY SOURCE THE HINDU

Bank deposits in India up to Rs 5 lakh are insured by the Deposit Insurance and Credit Guarantee Corporation. This provides a degree of safety to bank depositors.

ABOUT DEPOSIT INSURANCE AND CREDIT GUARANTEE CORPORATION (DICGC)

- All deposits and interest income are insured by Deposit Insurance and Credit Guarantee Corporation (DICGC). It is the second oldest insurer in the world.
- It is a statutory body created by the Deposit Insurance and Credit Guarantee Corporation Act, 1961.
- It is a wholly owned subsidiary of RBI.
- **Insured banks by DICGC:** All Scheduled Commercial Banks, Foreign Banks, Small Finance Banks, Payment

Banks, Regional Rural Banks, Local Area Banks, State Co-operative Banks, District Central Co-operative Banks, Urban Co-operative Banks.

- Primary Cooperative Societies are not covered by DICGC.

- **Insurance Cover amount:** Currently, the DICGC has raised the insurance cover to 5 lakhs. This covers all the money (Principal + Interest) with the bank e.g., savings, term deposit, recurring deposits etc.
  - Deposits kept in different branches of a bank are aggregated for the purpose of insurance cover and maximum amount of up to rupees 5 lakhs is paid.
  - All funds held in the same type of ownership at the same bank are added together before deposit insurance is determined. If funds are in different types of ownership or are deposited into separate banks they would then be separately insured.

- **Insurance Premium:** Insurance premium is provided by banks. This amount stands at Rs 12 paisa per Rs 100.

- **Following are not insured by DICGC:** Following types of deposits are not covered under DICGC insurance:
  - Deposits of foreign governments.
  - Deposits of Central/State governments.
  - Inter-bank deposits.
  - Deposits of state land development banks with state co-operative banks.
  - Any amount due on account of and deposit received outside India.
  - Any amount, which has been specifically exempted by the corporation with the previous approval of RBI.

- **When is DICGC liable to pay?** If a bank goes into liquidation, DICGC is liable to pay to the liquidator the claim amount of each depositor upto Rs 5 lakhs within two months from the date of receipt of claim list from the liquidator.

PROJECT NEXUS

#BANKING #PRELIMSSNIPPETS

PRIMARY SOURCE | The Indian EXPRESS

The Reserve Bank of India (RBI) has joined Project Nexus. a multilateral international initiative to enable instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs).

WHAT IS PROJECT NEXUS?

- It is a **multilateral international initiative** to enhance cross-border payments by **connecting multiple domestic instant payment systems** (IPS) globally.
- Project Nexus is **conceptualised by the Innovation Hub of the Bank for International Settlements (BIS)**.
- It aims to connect the IPSs of India, Malaysia, Philippines, Singapore, and Thailand.

WHY THE NEED?

- The **RBI has been collaborating bilaterally** with various countries to link India's Fast Payments System (FPS) – UPI, with their respective FPSs for cross-border Person to Person (P2P) and Person to Merchant (P2M) payments.
- While India and its partner countries can continue to benefit through such bilateral connectivity of FPS, **a multilateral approach will provide further impetus** to the RBI's efforts **in expanding the international reach of Indian payment systems**.
- In over 70 countries today domestic payments reach their destination in seconds at near-zero cost to the sender or recipient. Connecting these IPS to each other **can enable cross-border payments from sender to recipient within 60 seconds** (in most cases).

BENEFITS OF THE PLATFORM

- Project Nexus is designed to **standardise the way IPS connect to each other**.
- Rather than a payment system operator building custom connections for every new country that it connects to, **the operator can make one connection to the Nexus platform.**
- This single connection allows a fast payments system to reach all other countries on the network and **significantly accelerate the growth of instant cross-border payments**.

MINT RATIO

#ECONOMY

PRIMARY SOURCE | BusinessLine

WHAT IS MINT RATIO?

- Gold-silver ratio, also referred to as mint ratio, **is the relative value of gold with respect to that of silver.** The ratio is currently at around 82.
- In simple terms, the **ratio is calculated by dividing the price of gold by the price of equal quantity of silver.**

- This ratio **can vary every day** as the price of gold and silver continues to fluctuate.
- The reason for us looking into the ratio is that **it can provide a clue as to which among the two precious metals is likely to perform better, going forward.**

ALPHA

#FINANCIALMARKETS

PRIMARY SOURCE | THE HINDU

SEBI's recent consultative paper on risk-adjusted returns recommends that asset management companies (AMCs) disclose information ratio (IR) of their funds. The number of AMCs has increased over the years. With the availability of multiple products comes the difficulty of making meaningful choices.

WHAT ARE ACTIVE FUNDS?

- In an active fund, **the fund manager is 'Active' in deciding whether to buy, hold, or sell the underlying securities and in stock selection.**
- This fund relies on professional fund managers who manage investments.
- Active funds adopt different strategies and styles to create and manage the portfolio.
- They are expected to **generate** better **returns (alpha) than the benchmark index.**

WHAT ARE PASSIVE FUNDS?

- Passive funds – index funds and exchange traded funds (ETFs) – **hold a portfolio that replicates a stated index or benchmark.**
- In a passive fund, the fund manager has a passive role in the stock selection.
- **Buy, hold or sell decisions are driven by the benchmark index and the fund manager/dealer merely needs to replicate the same with minimal tracking error.**

MUTUAL FUNDS VS AIFs

#FINANCIALMARKETS

PRIMARY SOURCE | The Indian EXPRESS

The securities regulator, Sebi, is proposing a new investment option for those willing to take on more risk in exchange for potentially higher returns. This new category aims to bridge the gap between traditional mutual funds and exclusive services like portfolio management.

CURRENT OPTIONS

- Mutual funds offer lower minimum investments but also lower risk profiles.
- Portfolio management services (PMS) and alternative investment funds (AIFs) cater to high net-worth individuals with higher minimum investments and higher risk tolerance.

	Mutual Funds	Portfolio Management Services/ Alternative Investment Funds (AIFs)
Investors	Low investment size (Retail investors)	High investment size- Typically above ₹50 lakh (High Networth Individuals)
Risk	Relatively lower	High risk appetite
Nature of products	Standard products for all investors	Customised products
Regulation	Heavily regulated by SEBI	Regulated by SEBI but less stringent than mutual funds

EMERGENCE OF UNREGULATED INVESTMENT PRODUCTS

- SEBI believes this gap has led some investors who have relatively high investment, seeking higher returns and have a risk appetite, fall prey to unregulated investment schemes promising unrealistic returns. This new option would be a regulated product.

KEY FEATURES OF THE NEW ASSET CLASS PROPOSED BY THE SEBI

- *Investment size:* Minimum investment is Rs. 10 lakh. This is significantly lower than the minimum investment size for similar high-risk investment options like Portfolio Management Services (PMS) or AIFs which typically start at Rs 50 lakh.
- *Returns and Risk*: Higher risk compared to mutual funds, offering potentially higher returns but will be a regulated product, unlike some unauthorised investment schemes.

PRACTICE QUESTIONS

MCQS

Q1. Which of the following best describes Net Non-Performing Assets (NNPA)?

(a) The total amount of non-performing assets (NPAs) held by a bank

(b) The total value of provisions and write-offs made by a bank for its NPAs

(c) The percentage of performing assets in a bank's portfolio

(d) The total amount of NPAs after subtracting provisions and write-offs from them

Q2. Which of the following statements is/are correct regarding the difference between Mutual Funds and Alternative Investment Funds?

1. Mutual funds are regulated by SEBI whereas Alternative Investment Funds are unregulated investment vehicles.

2. Minimum investment requirement in mutual funds is relatively lower than in Alternative investment funds.

Select the correct answer using the code given below:

(a) 1 only   (b) 2 only

(c) Both 1 and 2   (d) Neither 1 nor 2

Q3. Which of the following statements is/are correct about GDP calculations in India?

1. The base year for calculation of GDP in India is 2011-12.

2. Base effect is a distortion in current GDP figures caused by exceptionally high or low levels of inflation in the previous year.

Select the correct answer using the code given below:

(a) 1 only   (b) 2 only

(c) Both 1 and 2   (d) Neither 1 nor 2

Q4. Which of the following indicators are monitored to place an Urban Cooperative Bank under Prompt Corrective Action Framework?

1. Capital to Risk Weighted Asset Ratio

2. Return on Assets   3. Gross NPAs

Select the correct answer using the code given below:

(a) 1 only   (b) 1 and 2 only

(c) 2 and 3 only   (d) 1 and 3 only

Q5. Consider the following statements about Deposit Insurance in India:

1. Deposit insurance is provided for all scheduled commercial banks and deposit taking NBFCs in India.

2. DICGC is a 100% owned subsidiary of RBI which provides deposit insurance.

3. Premium for the deposit insurance is provided by depositors directly.

4. Insurance amount up to Rs 5 lakh is provided by DICGC to the depositor upon liquidation of the bank.

Which of the statements given above is/are correct?

(a) 1 and 3 only   (b) 2 and 4 only

(c) 1, 2 only 4 only   (d) All of the above

DESCRIPTIVE QUESTIONS

Q1. How far has organic farming been helpful in sustaining agricultural production?

Q2. Explain intragenerational and intergenerational issues of equity from the perspective of inclusive growth and sustainable growth.

Answers: *1-d, 2-b, 3-c, 4-a, 5-b*

Click here for **INDEX**

CONSTITUTION, POLITY AND GOVERNANCE

GS PAPER (PRELIMS) & GS PAPER II (MAIN)

TIME FOR PROPORTIONAL REPRESENTATION

#ELECTORAL POLITICS

PRIMARY SOURCE THE HINDU

*After the recently concluded Lok Sabha elections, there is a debate around the system of elections in India, and should India go for the **Proportional representation system** in place of the presently used **First Past the Post System.***

First Past the Post System (FPTP): Under this system, the candidate who polls more than any other in a constituency is declared elected.

Proportional Representation System: The Proportional Electoral System is an electoral system where the political parties get as much representation (number of seats) in the legislature as per the share of votes they secure in the elections.

ADVANTAGES OF PROPORTIONAL REPRESENTATION (PR) OVER FIRST-PAST-THE-POST (FPTP)

- **Fairer Representation**:
  - **PR**: Ensures that political parties gain seats in proportion to the number of votes they receive. This means minority groups and smaller parties get better representation in the legislature.
  - **FPTP**: Often results in a significant disparity between the percentage of votes a party receives and the percentage of seats they win. Smaller parties may be underrepresented.

- **Reduces Wasted Votes**:
  - **PR**: Fewer votes are "wasted" as most votes contribute to the election of a representative.

  - **FPTP**: More number of votes can be wasted (i.e., not contributing to the election of any candidate) if they are cast for losing candidates.

- **Encourages Multi-Party Systems**:
  - **PR**: Facilitates the existence and success of multiple political parties, promoting a broader spectrum of political viewpoints and policy options, essential for a vibrant democracy like India.
  - **FPTP**: Often leads to a **two-party system**, marginalizing smaller parties and reducing voter choice.

- **Higher Voter Turnout**:
  - **PR**: Voters may be more motivated to participate when they feel their vote has a higher likelihood of influencing the outcome.
  - **FPTP**: Voter turnout can be lower if individuals feel their vote is unlikely to impact the result, particularly in "safe" seats. (As observed in 2024 General elections)

- **Coalition Governments**:
  - **PR**: Encourages coalition governments, which can lead to more collaborative and consensual policymaking.
  - **FPTP**: Usually leads to **single-party majority governments**, which may result in more adversarial politics.

CHALLENGES ASSOCIATED WITH PROPORTIONAL REPRESENTATION (PR) COMPARED TO FIRST-PAST-THE-POST (FPTP)

- **Complexity**:
  - **PR**: Involves a more complex voting and counting processes, which can be harder for voters to understand and may require more administrative resources.

- **FPTP**: Simple and straightforward, with voters selecting one candidate and the candidate with the most votes winning.

- **Instability**:
  - **PR**: Coalition governments can be less stable, potentially leading to more frequent elections if coalitions break down.
  - **FPTP**: Single-party majority governments are generally more stable and less prone to collapse.

- **Fragmentation**:
  - **PR**: Can lead to a **fragmented legislature** with many small parties, making it difficult to form a cohesive government leading to stalemate on basic issues.
  - **FPTP**: Typically results in fewer parties with clearer majorities, enabling more decisive governance.

- **Accountability**:
  - **PR**: Coalition governments can **dilute accountability** as it may be unclear which party or individual is responsible for specific policies or decisions.
  - **FPTP**: Voters can more **easily identify who is responsible** for government actions, facilitating greater accountability.

- **Extreme ideologies Parties**:
  - **PR**: May give seats to extremist parties that receive a small but significant portion of the vote, potentially allowing them to influence policy. (Far Right **AfD** of Germany has been able to secure 15 seats in recently held EU elections.)

- **FPTP**: Less likely to give representation to extremist parties, as they typically cannot win enough votes in any single constituency.

WAY FORWARD: Mixed-Member Proportional Representation (MMPR) system can be explored.

- The Mixed-Member Proportional Representation (MMP) system combines elements of both proportional representation (PR) and first-past-the-post (FPTP) electoral systems.

- The law commission in its 170th report, **'Reform of the electoral laws' (1999)**, had recommended the introduction of the **Mixed-Member Proportional Representation (MMPR)** system on an experimental basis**.** It suggested that 25% of seats may be filled through a PR system by increasing the strength of the Lok Sabha.

WORKING OF MIXED-MEMBER PROPORTIONAL REPRESENTATION (MMP)

A proportion of the parliament (E.g.: roughly half in the cases of Germany, Bolivia, and Venezuela) is elected by plurality-majority methods, usually from single-member constituencies, while the remainder is constituted by PR lists.

- **Two Votes per Voter**: In some of these systems, the voters are entitled to two kinds of votes.
  - **Party Vote**: Voters cast a vote for a political party. This vote determines the overall proportion of seats each party will receive in the legislature.
  - **Candidate Vote**: Voters also cast a vote for a specific candidate to **represent their local constituency**. The candidate with the most votes in each constituency wins a seat in the legislature.

MERITS OF IMPLEMENTING MMPR	CHALLENGES ASSOCIATED WITH THE IMPLEMENTATION OF MMPR

- **Proportional Representation**:
  - The overall distribution of seats matches the proportion of votes each party receives, addressing the issue of disproportionality in pure FPTP systems.
- **Local Representation**:
  - Voters still have a direct representative for their local constituency, maintaining the link between constituents and their representatives.
- **Reduced Wasted Votes**:
	- **Complexity**:
	  - The system is more complex than either pure **FPTP or pure PR**, requiring voters to understand two types of votes and how they contribute to the overall result.
	- **Potential for Overhang Seats**:
	  - If a party wins more seats than it is entitled to based on its proportion of the party vote, additional seats (overhang seats) may be created to maintain proportionality, potentially complicating the size and structure of the legislature.

o Votes for smaller parties are **less likely to be wasted** since these parties can gain compensatory seats even if they do not win many (or any) seats.
 	
• **Increased Voter Choice**:
  o Voters can **support a local candidate from one party while voting for a different party on the party list**, providing greater flexibility and choice.
 	
• **Balanced Governance**:
  o Combines the stability of **FPTP (through representatives) with the fairness of PR**, potentially leading to more balanced and inclusive governance.
 	
• **Implementation examples:** The Bundestag (Federal parliament) of Germany uses MMP. **Scotland and Wales**
	• **Coalition Governments**:
	  o Like pure PR systems, MMP often results in coalition governments, which can be less stable and require more negotiation and compromise among multiple parties.
	
	• **Dual Accountability**:
	  o Representatives elected through the party list may be **less accountable to specific local constituencies**, potentially leading to a perception of less direct representation.

The Mixed-Member Proportional Representation (MMP) system which is a hybrid electoral model can capture the benefits of both FPTP and PR systems. It can ensure fairer representation while maintaining direct local accountability.

The delimitation exercise to increase the number of seats is due based on the first Census to be conducted after 2026. Determining the number of seats in Lok Sabha solely in proportion to population may go against the federal principles of our country and may lead to a feeling of disenchantment in the States (Southern, Northeastern, and smaller States in the northern region) that stand to lose through such representation.

NATIONAL PARTY STATUS

#RECOGNITION OF POLITICAL PARTIES #ELECTIONS

PRIMARY SOURCE | *The Indian* **EXPRESS**

*With no elected MP in Lok Sabha and its vote share this general election down to 2.04%, the **Bahujan Samaj Party (BSP) could lose its national status**. The EC will start the review process after the statistical reports of the 2024 elections are published.*

RECOGNITION OF NATIONAL AND STATE PARTIES

• **The Election Commission registers political parties** for the purpose of elections and grants them recognition as national or state parties on the basis of their poll performance.

• The other parties are simply **declared as registered-unrecognised parties.**

• The recognition **granted by the Commission to the parties determines their right to certain privileges** like allocation of the party symbols, provision of time for political broadcasts on the state-owned television and radio stations and access to electoral rolls.

• Further, **the recognized parties need only one proposer for filing the nomination.**

• Also, these **parties are allowed to have forty "star campaigners"** during the time of elections and the **registered unrecognized** parties **are allowed to have twenty "star campaigners".**

• **Every national party is allotted a symbol exclusively reserved for its use throughout the country.**

• Similarly, **every state party is allotted a symbol exclusively reserved for its use in the state or states in which it is so recognised.**

• A registered-unrecognised party, on the other hand, can select a symbol from a list of free symbols.

• The Commission specifies certain symbols as **'reserved symbols'** which are meant for the candidates set up by the recognised parties and others as **'free symbols'** which are meant for other candidates.

CLASSIFICATION OF POLITICAL PARTIES

According to the **Election Symbols (Reservation and Allotment) Order, 1968:**

National Party:

• A National Party is one which secures **six per cent of valid votes** polled in any **four or more states** at a general election to the Lok Sabha or to the legislative assembly; and, in addition, **it wins four seats in the Lok Sabha from any state or states;** OR

- If it wins **two per cent of seats** in the Lok Sabha at a general election; and **these candidates are elected from three states; OR**
- If it is recognised **as a state party in four states.**
- **Benefits:**
  - o As a national party, a political party gets certain benefits, including the guaranteed use of their common election symbol for candidates across the country, land or accommodation for an office in Delhi, free copies of the electoral roll and airtime on Doordarshan and All-India Radio during elections.

CONDITIONS FOR RECOGNITION AS A STATE PARTY

A party is recognised as a state party in a state if any of the following conditions is fulfilled:

- If it secures **six per cent of the valid votes polled in the state** at a general election to the legislative assembly of the state concerned; and, in addition, **it wins 2 seats** in the assembly of the state concerned; OR
- **If it secures six per cent of the valid votes** polled in the state at a general election to the Lok Sabha from the state concerned; and, **in addition, it wins 1 seat in the Lok Sabha** from the state concerned; OR
- **If it wins three per cent of seats in the legislative assembly** at a general election to the legislative assembly of the state concerned or 3 seats in the assembly, whichever is more; or
- **If it wins 1 seat in the Lok Sabha for every 25 seats** or any fraction thereof allotted to the state at a general election to the Lok Sabha from the state concerned; OR
- **If it secures eight per cent of the total valid** votes polled in the state at a General Election to the Lok Sabha from the state or to the legislative assembly of the state. **This condition was added in 2011.**
- **Benefits:**
  - o In the case of state parties, they are given free copies of the electoral roll in their respective states and airtime in the regional centres of the public broadcasters.

Note:
- **Post the 2014 elections, the Symbols Order was amended in 2016 with effect from January 1, 2014.**

- The amendment mentioned that a party's national or state recognition would not be reviewed in the first election after the one in which they gain the status, **meaning the first review would be after 10 years.** This benefit was given to all parties.

VICTIMS AND SURVIVORS SILENCED

#POLITY AND GOVERNANCE #JUDICIARY

PRIMARY SOURCE | THE HINDU

*A recent case of a couple being flogged at a **Kangaroo court** in Chopra (West Bengal) because of alleged **extramarital affair** has brought back the debate on kangaroo courts and vigilante justice in various parts of India.*

ABOUT VIGILANTE JUSTICE

- Vigilante justice refers to the act of individuals or groups taking the **law into their own hands to enforce justice** which is outside the established legal system.
- It involves apprehending, punishing, seeking retribution, or even lynching to death against perceived wrongdoers without **proper authorization or due process.**
- Vigilantism generally arises when individuals feel that the formal legal system **is ineffective, corrupt, or unable to deliver justice.** Vigilantes may believe they are acting in the best interest of their community or seeking to right perceived injustices that the legal system has failed to address.

CONSTITUTIONAL AND LEGISLATIVE POSITION

- **Violative of Article 14** (equality before law and equal protection of law), Article 15 (3) Special provisions for women and children, Article 19, freedom of speech and expression, Article 21(right against self-incrimination) and Article 21 i.e. Right to life with dignity of the victims.
- Violation of provisions of **Protection of women from Domestic violence act.**
- Provisions of **Special Marriage Act.**
- **Section 103 of BNS** (Punishment for murder)

REASONS FOR VIGILANTE JUSTICE IN INDIAN SOCIETY

- **Breakdown of law and order**: In areas where law enforcement is **weak or corrupt**, vigilante groups take

matters into their own hands, leading to instances of mob violence and vigilantism.

- **Inefficiency or corruption in the legal system**: Sometimes, people feel disillusioned with the **slow pace of justice delivery, bureaucratic hurdles**, and **corruption within the legal system.** When they believe that authorities are unable or unwilling to address crimes effectively, some fringe elements resort to taking matters into their own hands.

- **Lack of trust in law enforcement**: Trust in law enforcement agencies is low in certain communities due to instances of corruption, inactiveness, and perceived bias. When people feel that the police are not responsive to their needs or might be complicit in criminal activities, they feel compelled to seek justice independently.

- **Cultural and religious factors**: Vigilante justice may be motivated by cultural or religious beliefs, where communities take it upon themselves to enforce moral codes or punish perceived transgressors. This can lead to instances of mob violence or lynching based on accusations of **blasphemy, inter-caste relationships, extramarital affairs,** or other perceived offenses against social norms.

- **Perception of impunity**: Individuals engage in vigilante actions because they believe they can **act with impunity**; it is due to a lack of enforcement of laws or a sense of community and political support for their actions.

- **Political manipulation**: Vigilantism has been exploited by various political groups to advance their agendas and mobilize support. In some cases, politicians and radical organizations have incited violence in the name of protection of social order to polarize communities and garner political mileage.

- **Perceived threat to cultural identity**: Some advocates of vigilantism perceive extramarital affairs as a **threat to India's cultural identity** and view themselves as defenders of traditional values.

WAY FORWARD

Court Judgements:

- In *Naz Foundation vs. Govt. of NCT of Delhi, 2009* Delhi High Court stated that constitutional morality supersedes public morality, in this case, khap panchayat could not be defended in the name of **public morality.**

- In *Arumugam Servai Vs State of Tamil Nadu* **(2011),** Supreme Court directed that "If any such incidents happen, apart from instituting criminal proceedings against those responsible for such atrocities, the State government concerned is **directed to immediately suspend the District Magistrate/Collector and the SSP/SPs of the district** as well as other officials concerned and chargesheet them and proceed against them departmentally if they do not prevent the incident if it has not already occurred but they have knowledge of it in advance, or if it has occurred, they do not promptly apprehend the culprits and others involved and institute criminal proceedings against them, as, in our opinion, they will be deemed directly or indirectly accountable in this connection."

- In *Shakti Vahini vs Union of India,* **Supreme Court gave guidelines to deal with honour killing and extrajudicial punishments.**

Preventive	Punitive
• The State Governments should identify Districts, Sub-Divisions and/or Villages where instances of honour killing, or assembly of Khap Panchayats have been reported in the recent past (5 years) • If information about any proposed gathering of a Khap Panchayat comes to the knowledge of any official he shall inform his immediate superior officer and simultaneously intimate the jurisdictional Deputy SP and SP. • The DSP should immediately interact with the members/ elders of such Khap convey that convening of such meeting/gathering is not permissible in law and to	• Create Special Cells in every District comprising the Superintendent of Police, the District Social Welfare Officer and other concerned to receive petitions/complaints of harassment of and threat to couples of inter-caste marriage. • The criminal cases pertaining to honour killing or violence to the couple(s) shall be tried before the designated Court/**Fast Track Court earmarked for that purpose.** • 24-hour helpline to receive and register such complaints and to provide necessary assistance/advice

go ahead with such a meeting.	and protection to the couple.

Legislative reforms:

- Law commission in its 242nd report has recommended **barring a person from contesting election** if found a part of such khap panchayat. Similarly, anyone proved to be part of such khap panchayat assembly shall **attract criminal liability** and should be punished accordingly.

- The amendments in the **Special Marriage Act, 1954** are required to decrease the registration period window from **one month to one week.** So that the marriage could get legal validity sooner, for getting protection from the law sooner in case of inter caste relationships.

- **Amendments to the Indian Evidence Act, 1872** are necessary for shifting the burden of proof from the **prosecution to accused** to prove their innocence in case of honour killings or related crimes.

- **Introduction of a new class of crime:** Honour killing as a special crime punishable as a rarest of rare case. This amendment would widen the scope and ambit of BNS Section 103 so that it would include cases of death due to **instigation, due to harassment or cruelty**.

Administrative reforms:

- **Separate data collection:** As of now, the NCRB does not categories the incidents of honour killing or punishments khap panchayats as a separate category of crimes, this should be done to have a database for the same.

- **Address delay in filing FIR:** Police officials shall not delay in filing of F.I.R. under the appropriate provisions of the Penal Code.

- **Provision of protection:** Immediate steps should be taken to provide security to the persons facing threat of persecution and, if necessary, move them to a safe house.

OATH UNDER THE INDIAN CONSTITUTION

#PRELIMS NUGGETS #CONSTITUTION

PRIMARY SOURCE | The Indian EXPRESS

- In recent years, there has been a notable shift in how political leaders and parties in India regard the Constitution. This newfound respect was prominently displayed during the recent session of Parliament, following the election of the 18th Lok Sabha.

- Members of Parliament, while taking their oaths, added the phrase "Jai Samvidhan," a gesture that has also become popular in public gatherings.

- **Article 99 prescribes that every member of either House of Parliament should take an oath or affirmation according to the Third Schedule that** she "shall bear true faith and allegiance to the Constitution of India as established by law".

- **The other oath in the Third Schedule prescribes the oath of office for Justices of the Supreme Court and the High Courts of India which includes:** "I will duly and faithfully and to the best of my ability, knowledge and judgement perform the duties of my office without fear or favour, affection or ill-will and that I will uphold the Constitution and the laws."

THE THIRD SCHEDULE OF THE INDIAN CONSTITUTION

- **The Third Schedule of the Indian Constitution contains the "Forms of Oaths or Affirmations" of various constitutional posts.**

- It deals with **Articles: 75, 84, 99, 124, 146, 173, 188 and 219**

- It contains the Forms of Oaths or Affirmations of the following constitutional posts:

  1. The Union ministers
  2. The candidates for election to the Parliament
  3. The members of Parliament
  4. The judges of the Supreme Court
  5. The Comptroller and Auditor General of India
  6. The state ministers
  7. The candidates for election to the state legislature
  8. The members of the state legislature
  9. The judges of the High Courts

CrPC AND PERSONAL LAWS

#PERSONAL LAWS #SECULARISM

PRIMARY SOURCE | THE HINDU

Division bench of Supreme Court has held that a Muslim woman is entitled to seek maintenance from her husband

under Section 125 of the CrPC, a secular legislation even if they were divorced under religious personal law.

About Maintenance: It is an amount payable by the husband to the wife (or wife to husband) who is unable to maintain herself either during the marriage or after divorce. Maintenance should include basic necessities such as food, clothing, and shelter and cover rational needs to lead a normal living and to ensure financial sustenance and wellbeing.

Laws governing Maintenance: Various laws governing maintenance are:

- Hindu Marriage Act, 1955 and Hindu Adoption and Maintenance Act, 1956
- Muslim Women (Protection of Rights on Divorce) Act, 1986
- Parsi Marriage and Divorce Act, 1936 Indian Divorce Act, 1869
- Special Marriage Act,1954
- Criminal Procedure Code, Section 125, 1973.

ABOUT SECTION 125 CrPC: If any person having sufficient means; neglects or refuses to maintain, his wife (including divorced woman who has not remarried) who is unable to maintain herself, and his legitimate or illegitimate child or a child with physical or mental abnormality, a magistrate can pass order to make a monthly allowance for the maintenance of his wife or child.

REASONING BEHIND THE PROVISION OF MAINTENANCE

- **It is a statutory right** to seek maintenance under Section 125 of the CrPC which is embedded in the text, structure, and philosophy of the Constitution. **Article 15(3), read with Article 39(e)** manifests a constitutional commitment towards special measures to ensure a life of dignity for women at all stages of their lives.
- It is supposed to be **irrespective of the faith** a woman belongs to (in this case a Muslim woman)
- Maintenance is considered as a critical source of support for the destitute, deserted and deprived sections of women.
- Constitutional philosophy of social justice seeks to liberate the Indian wife, including a divorced woman, from the shackles of gender-based discrimination, disadvantage, and deprivation.

JUDICIAL INTERPRETATION IN THIS CONTEXT

- **Shah Bano Case (1985)**: The Supreme Court ruled that a Muslim woman was entitled to maintenance under Section 125 of CrPC, raising controversy and leading to the enactment of Muslim Women (Protection of Rights on Divorce) Act, 1986.

- **Danial Latifi Case (2001)**: The Supreme Court interpreted the 1986 Act in a manner consistent with Section 125 of CrPC. The court held that a Muslim woman is entitled to a reasonable and fair provision and maintenance, and this should be provided during the iddat period and should be **sufficient to sustain her for future.** Essentially, it upheld that the 1986 Act does not take away the right to maintenance under Section 125 of CrPC beyond the iddat period but ensures a lump sum or appropriate provision for the woman's future during the iddat period itself.

- **Md. Abdul Samad vs Telangana:** A Muslim divorced wife is entitled to maintenance under Section 125 CrPC irrespective of her personal law, moreover, Muslim women, who are divorced through the illegal method of **triple talaq**, are also entitled to claim maintenance under Section 125 CrPC.

EXPUNCTION POWERS OF PARLIAMENT

#PARLIAMENT

PRIMARY SOURCE | THE HINDU

*In the ongoing parliament session, the Chairman of Rajya Sabha has expunged the remarks of Leader of opposition (LoP) Mallikarjun Kharge. In Lok Sabha, parts of LoP Rahul Gandhi's remarks on the PM and the ruling party were **expunged from the records** on the orders of Speaker Om Birla.*

ABOUT FREEDOM OF SPEECH IN THE HOUSE

- **Article 105** of the Constitution of India confers certain privileges and freedom of Speech and expression in Parliament on MPs.

- If the words, phrases, and expressions of an MP are deemed "**defamatory, indecent, unparliamentary or undignified"** the MPs are asked to withdraw those remarks, if the MPs do not comply, those words are deleted or expunged from records on the order of **the Speaker of the House.**

- The powers to expunge are conferred upon the Speaker by the Rules of Parliamentary etiquettes which are laid out to ensure discipline and decorum.
- For this purpose, the Lok Sabha Secretariat also maintains a comprehensive list of 'unparliamentary' words and expressions.

GROUNDS OF EXPUNCTION

- **Unparliamentary Language**: Words or phrases that are considered offensive, abusive, or disrespectful to other members, the Speaker, or any other person or institution can be expunged. (The Lok Sabha has a list of expressions that are considered unparliamentary.)
- **Defamatory Statements**: Any remarks that defame, malign, or cast aspersions on the character or conduct of individuals, whether they are members of the house or not, can be expunged.
- **Irrelevance or Breach of Decorum**: Speeches or comments that are irrelevant to the subject under discussion, or that breach the decorum and dignity of the house, can be expunged.
- **Sensitive or Confidential Information**: Statements that disclose sensitive or confidential information, particularly if it pertains to national security or the privacy of individuals, can be ordered to be expunged.
- **Personal Attacks**: Personal attacks or derogatory remarks directed at other members of the house can be expunged to maintain the decorum of parliamentary proceedings.
- **Inaccurate or Misleading Information**: Statements that are factually incorrect or intentionally misleading can also be ordered to be expunged, especially if they have the potential to misinform the house or the public.
- **Prejudicial to National Interest**: Words deemed prejudicial to national interest or detrimental to maintaining friendly relations with a foreign State, derogatory to dignitaries, likely to offend national sentiments.
- **Other Words or statements** which are likely to discredit the Army, not in good taste or otherwise objectionable or likely to bring the House into ridicule or lower the dignity of the Chair, the House or the members can also be expunged.

REMARKS AGAINST MP

- **Rule 353 of the Lok Sabha (Rules of procedure and conduct of business in Lok Sabha)** prohibit the allegation of defamatory or incriminatory statements against fellow MPs unless the person has given adequate advance notice to the speaker and concerned minister. Minister concerned will conduct an inquiry into the allegation and come up with the facts when the MP makes the allegation in the House.
  - However, the Speaker may at any time prohibit any member from making any such allegation if the Speaker is of opinion that such allegation is derogatory to the dignity of the House or that no public interest is served by making such allegation.
- Rule 353 **does not apply to an allegation against a Minister** in the government. Since the Council of Ministers is accountable to Parliament, the Members of the House have the right to question Ministers and make imputations against their conduct as Ministers.

PROCEDURE OF EXPUNCTION

- **Rule 261 of Rules of Procedure of Rajya Sabha:** If the Chairman is of opinion that a word or words has or have been used in debate which is or are defamatory or indecent or unparliamentary or undignified, Chairman has the discretion to order that such word or words be expunged from the proceedings of the Council.
- **Rule 380 and 381 of Rules of procedure of Lok Sabha:** If the Speaker is of opinion that words used in debate are defamatory or indecent or unparliamentary or undignified, the Speaker in his/her discretion may, order that such words be expunged from the proceedings of the House.

NITI AAYOG (NATIONAL INSTITUTION FOR TRANSFORMING INDIA)

#GOVERNANCE

PRIMARY SOURCE *The Indian EXPRESS* SECONDARY SOURCE p i b

The government reconstituted the NITI Aayog, increasing the number of special invitees from 5 to 11.

ABOUT NITI AAYOG

- Specific to the planning process, there is a need to separate as well as energise the distinct 'process' of governance from the 'strategy' of governance.
- **Nature of the Body:** Non-constitutional and non-statutory as it was established by a Cabinet Resolution.

- **Institutional Framework:** The NITI Aayog will comprise the following:
  - o **Prime Minister of India** as the **Chairperson.**
  - o **Governing Council** comprising the Chief Ministers of all the States and Lt. Governors of Union Territories.
    - ▪ The Governing Council is the **premier body tasked with evolving a shared vision of national priorities and strategies**, **with active involvement of States**, in shaping development narrative.
    - ▪ Governing Council, which embodies objectives of cooperative federalism, **presents a platform to discuss inter-sectoral, interdepartmental and federal issues** to accelerate implementation of the national development agenda
  - o **Regional Councils** will be formed to address specific issues and contingencies impacting more than one state or a region.
    - ▪ These will be formed for a specified tenure.
    - ▪ The Regional Councils will be convened by the Prime Minister and will comprise the Chief Ministers of States and Lt. Governors of Union Territories in the region.
    - ▪ These will be chaired by the Chairperson of the NITI Aayog or his nominee.
  - o Experts, specialists and practitioners with relevant domain knowledge as **special invitees** nominated by the Prime Minister.
  - o The institutional framework of government has developed and matured over the years. This has allowed the development of domain expertise which allows it the chance to increase the specificity of functions given to institutions.
- **Composition:**
  - o **Chairperson:** Prime Minister of India
  - o **Vice-Chairperson:** To be appointed by the Prime Minister
  - o **Members:** Full-time
  - o **Part-time members: Maximum of 2** from leading universities, research organisations and other relevant institutions in an ex-officio capacity. Part time members will be on a rotational basis.

  - o **Ex Officio members: Maximum of 4 members** of the Union Council of Ministers to be nominated by the Prime Minister.
  - o **Special Invitees:** Experts, specialists, practitioners with domain knowledge.
  - o **Chief Executive Officer:** To be appointed by the Prime Minister for a fixed tenure, in the rank of Secretary to the Government of India.
  - o **Secretariat** as deemed necessary.
- **Objectives:** The NITI Aayog will work towards the following objectives:
  - o To **evolve a shared vision of national development priorities, sectors and strategies with the active involvement of States** in the light of national objectives. The vision of the NITI Aayog will then provide a framework 'national agenda' for the Prime Minister and the Chief Ministers to provide impetus to.
  - o To **foster cooperative federalism** through structured support initiatives and mechanisms with the States on a continuous basis, recognizing that strong States make a strong nation.
  - o To **develop mechanisms to formulate credible plans at the village level** and aggregate these progressively at higher levels of government.
  - o To ensure, in areas that are specifically referred to, that the **interests of national security are incorporated in economic strategy and policy.**
  - o To pay **special attention to the sections of our society** that may be **at risk of not benefitting adequately from economic progress.**
  - o To **design strategic and long term policy and programme frameworks** and initiatives, **and monitor their progress and their efficacy**. The lessons learnt through monitoring and feedback will be used for making innovative improvements, including necessary mid-course corrections.
  - o To p**rovide advice and encourage partnerships between key stakeholders and national and international like-minded Think Tanks**, as well as educational and policy research institutions.
  - o To **create a knowledge, innovation and entrepreneurial support system** through a collaborative community of national and international experts, practitioners and other partners.

o To **offer a platform for resolution of inter-sectoral and inter-departmental issues** in order to accelerate the implementation of the development agenda.

o To **maintain a state-of-the-art Resource Centre**, be a repository of research on good governance and best practices in sustainable and equitable development as well as help their dissemination to stake-holders.

o To **actively monitor and evaluate the implementation of programmes and initiatives**, including the identification of the needed resources so as to strengthen the probability of success and scope of delivery.

o To **focus on technology upgradation and capacity building** for implementation of programmes and initiatives.

o To undertake other activities as may be necessary in order to further the execution of the national development agenda, and the objectives mentioned above.

Hence, looking at the objectives, the NITI Aayog's entire gamut of activities can be divided into four main heads:

• Cooperative Federalism

• Policy and Programme Framework

• Monitoring and Evaluation

• Think Tank, and Knowledge and Innovation Hub

The different verticals, cells, attached and autonomous bodies of NITI provide the requisite coordination and support framework needed to carry out its mandate.

• NITI Aayog is **developing itself as a state-of-the-art resource centre** with the necessary knowledge and skills that will enable it to act with speed, promote research and innovation, provide strategic policy vision for the government, and deal with contingent issues.

It is **supported by** an attached office, **Development Monitoring and Evaluation Organisation (DMEO)**, a flagship initiative, **Atal Innovation Mission (AIM)** and an autonomous body, **National Institute of Labour Economics Research and Development (NILERD).**

SC TO EXAMINE IF GOVERNORS ARE 'SUBVERTING' FEDERALISM

#GOVERNORS #CENTRE-STATE #FEDERALISM #PRELIMS NUGGETS

PRIMARY SOURCE | THE HINDU

*A petition was filed by the **State of Kerala which brought into focus the role of its Governor,** who kept Bills pending for two years before reserving them for the **consideration of the President.** The Supreme Court will examine if Governors, by indefinitely sitting on crucial Bills only to eventually refer them to the President who solely acts on the advice of the Centre, are opening the doors for Union interference in the legislative domain of States, thereby subverting federalism.*

GOVERNOR'S POWER TO RESERVE BILLS FOR APPROVAL

Article 200-Assent to Bills:

• When a Bill has been **passed** by the Legislative Assembly of a State or, in the case of a State having a Legislative Council, has been passed by both Houses of the Legislature of the State, i**t shall be presented to the Governor** and the Governor shall declare **either that he assents to the Bill or that he withholds assent** therefrom or that **he reserves the Bill for the consideration of the President.**

• Provided that the Governor may, as soon as possible after the presentation to him of the Bill for assent, **return the Bill if it is not a Money Bill together with a message requesting that the House or Houses** will **reconsider the Bill or any specified provisions thereof** and, in particular, will consider the desirability of introducing any such amendments as he may recommend in and, when a Bill is so returned, the House or Houses shall reconsider the Bill accordingly, and **if the Bill is passed again by the House or Houses with or without amendment and presented to the Governor for assent, the Governor shall not withhold assent therefrom.**

• Provided further that the **Governor shall not assent to, but shall reserve for the consideration of the President,** any Bill which in the opinion of the Governor would, if it became law, **so derogate from the powers**

of the High Court as to endanger the position which that Court is by this Constitution designed to fill.

ARTICLE 201-BILLS RESERVED FOR CONSIDERATION

- **When a Bill is reserved by a Governor for the consideration of the President,** the President shall declare **either that he assents to the Bill or that he withholds assent therefrom**.

- Provided that, **where the Bill is not a Money Bill,** the **President may direct the Governor to return the Bill to the House** or, as the case may be, the Houses of the Legislature of the State together with such a message as is mentioned in the **first proviso to Article 200 and, when a Bill is so returned, the House or Houses shall reconsider it accordingly within a period of six months from the date of receipt of such message and, if it is again passed by the House or Houses with or without amendment, it shall be presented again to the President for his consideration.**

The Governor's power to withhold assent or return a Bill, with a message, for reconsideration is seen as discretionary.

ARTICLE 163

- Another constitutional provision of importance is Article 163 which states that there shall be a Council of Ministers with the Chief Minister at the head to aid and advise the Governor in the exercise of his functions, **except in so far as he is by or under this Constitution required to exercise his functions or any of them in his discretion.**

- However, the discretionary powers of the Governors have not been explicitly defined in the constitution and can only be ascertained by going through certain constitutional provisions.

CONCERNS

There are three clear problems associated with Article 200, which deals with assent to Bills:

- The absence of a time limit for acting on Bills.

- The scope for reserving a Bill for the President's consideration against the express advice of the Cabinet.

- The claim that the Governor can kill any Bill by declining assent.

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements with reference to the legislative powers and functions of the Governor of a State?

1. According to Article 200 of the constitution, the Governor can return the Money Bill to the state legislature for reconsideration.

2. According to Article 201 of the Constitution, if the President returns a bill, the state legislature must reconsider it within four months.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Q2. The right to seek Maintenance in India is a

(a) Constitutional Right

(b) Statutory right

(c) Fundamental right

(d) Natural right

Q3. In context of parliament of India, consider the following statements:

1. The Right to freedom of Speech and expression of Members of Parliament is Constitutionally protected.

2. Unparliamentary language, defamatory statements, and personal attacks can be grounds for expunction of remarks in Parliament.

3. Lok Sabha rules allows MPs to make any allegations against an MP without prior notice to the Speaker or the concerned minister.

How many of the statements given above is/are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

Which of the statements given above is/are correct?

(a) 1 and 3 only

(b) 2 and 3 only

(c) 1 only

(d) 2 only

Q4. With reference to the NITI Aayog, consider the following statements:

1. It is a non-constitutional and a non-statutory body.

2. The Vice Chairperson of NITI Aayog is appointed under the hand and seal of the President of India.

3. Only a fixed number of special invitees can be appointed to the NITI Aayog.

Q5. The third schedule of the constitution deals with which of the following?

(a) Federalism

(b) Representation of States in Lok Sabha

(c) Oaths of constitutional functionaries

(d) Powers of Speaker

DESCRIPTIVE QUESTIONS

Q1. Though there are issues with the First Past the Post System, there merits to continue with it in the Indian Context. Discuss.

Q2. Kangaroo courts and khap panchayats need to be checked in India. In this highlight concerns and possible ways to handle them.

Answers: *1-d, 2-b, 3-b, 4-c, 5-c*

INTERNATIONAL RELATIONS & SECURITY

GS PAPER (PRELIMS) & GS PAPER II & III (MAIN)

RECENT TRENDS OF TERRORISM IN JAMMU & KASHMIR

#TERRORISM, SECURITY

PRIMARY SOURCE THE HINDU   **SECONDARY SOURCE** *The Indian* EXPRESS

There has been increasing trend of terrorism in the Jammu region of UT of J&K in the recent past.

CHANGES IN TERRORISM LANDSCAPE OF JAMMU & KASHMIR

- **Broad declining trend in terrorism in J&K:** According to Union Home Ministry, between 2017 and 2022 there has been broad decline in terror related incidents in the region. This is reflected by following data: number of infiltrators has fallen from 53 to 14, civilians killed from 55 to 31 and terrorist-initiated incidents from 228 to 125.

- **Widening in the geography of terrorism to include Jammu region:** In recent times, there has been a broader shift of terrorist activity across the Pir Panjal range to the Jammu region from the Kashmir Valley. This year alone, there have been at least 6 major incidents in the Jammu region, including the death of 9 people in Reasi in an attack on bus carrying pilgrims.

FACTORS FOR INCREASING TERRORISM IN RECENT TIMES

- **Approaching elections in J&K:** Supreme Court has given a deadline to hold elections by September 30 in UT of J&K. As these elections are fast approaching terrorists and their backers have stepped up their activity damage the chances of return to political normalcy.

- **Healthy Participation in Lok Sabha elections:** Voter turnout in the Kashmir region was around 58.6% which is the highest in past 35 years. This shows enhanced trust among the citizens in the electoral process. Terrorist groups and Pakistan particularly who want to show the apathy of the citizen of J&K towards the Indian state must not be happy with this development. Hence, have increased their activity.

- **Strategic repositioning of forces towards Eastern Ladakh:** Due to the enhanced security challenges being posed by China along the Ladakh and Arunachal Borders, the large majority of armed forces has shifted from the Kashmir region to Ladakh and Arunachal. This has created a security vaccuium in the J&K region making it easier for terrorist groups to attack.

- **Greater reliance on local terrorists:** As the India's border security infrastructure has improved in recent times, the strategy of terrorist groups has been increasingly to radicalise and hire local youth as terrorists. This also helps to keep their propaganda that terrorism in J&K is home grown born out of of apathy of local citizens against the Indian state alive.

- **New techniques and technologies employed by terrorists:** Terrorists have started to use new techniques which are easily available such as drones, telegram groups etc. These allow terrorist groups to bypass the eyes of Indian intelligence agencies.

- **Rise of new terror groups:** In recent years, there has been rise of new terror outfits in the region which are either offshoots of older terror groups such as JeM, Hizbul Mujahideen like The Resistance Front,

- **Pakistan's policy of state support to terrorism in J&K:** Even since the Independence, Pakistan has maintained that it has moral right over province of J&K as it is Muslim majority and by the principle of 'Two-State Solution' should have gone to Pakistan. Pakistan

has tried to enforce many warns on the issue of J&K and each time has been successfully defeated by India. As the overt military adventures of Pakistan failed, Pakistan started supporting terror groups in the valley to push its agenda of antagonizing citizens against India.

- **Attitude of Pakistan's military:** Pakistan Army is the most important power centre in the political landscape of Pakistan. The Pakistani Army has a vested interest in keeping the security pot boiling between India and Pakistan, which increases their legitimacy and high budgets.

- **Lost generation of youth:** Large population of youth in the region remains alienated from the Indian state due to lack of economic opportunities in the past two decades and widespread terrorism and violence in the region which has made them loose family members. Often they fall into the fishing net of terror recruiters and succumb to resorting terrorism.

- **Radical Islam:** Kashmir's sufi version of Islam has been increasingly replaced by a wahabi cult of islam which thrives on the philosophy of jehad against the Indian state. The earlier movement for self-dependence has increasingly taken a communal colour rooted against the minority hindu and other religions of India.

- **India's security centric response to Pakistani terrorism:** Ever since the 2008 Mumbai Terror attack, India has followed the policy of 'talks and terror cannot go together'. However, this overt reliance on security to stop Pakistan's support of terrorism has not resulted into complete stoppage of terrorism from Pakistan. However, changing the behaviour of Pakistan should demand both a mix of diplomatic and security measures.

WAY FORWARD

Security related measures:

- Boosting border security to reduce infiltration of terrorists, ammunitions and other support from Pakistan into Kashmir.

- Empowerment of J&K Police with state of the art technology and manpower who are the first respondents in terror related cases.

- Improving intelligence capabilities of security forces like the Army in the region to have better control of terrorism.

- Arrest routes of terror financing the region to plug the flow of funds which are used to finance terrorism.

- Better training in counter insurgency operations and strict adherence to standard operating protocols to reduce casualities among the armed forces.

Confidence building measures:

- Normalisation of provincial democratic system in the region while increase the trust of the people in the region in India's constitution and liberal values.

- Addressing the alienation of citizens by focusing on economic and human development.

- Special economic package and tax rebates for greenfield industries in the region.

Foreign policy related measures:

- India should try to present credible evidence of support of Pakistan to terror groups on global forums like UN.

IMPORTANCE OF BOTH QUAD AND BRICS

#INTERNATIONAL GROUPINGS
#INTERNATIONALRELATIONS

PRIMARY SOURCE THE HINDU

The foreign ministers' meeting of QUAD nations to be held comes at a time when the United Nations Security Council (UNSC) is weakened and its reform nowhere in sight.

CURRENT GEOSTRATEGIC REALITIES AND DILEMMAS

- Both the Ukraine war and Israel's actions in Gaza demonstrate **blatant disregard for international law.**

- **An axis of Russia, China, North Korea, and Iran** is gaining momentum and **Chinese influence** is growing not just in the **Indo-Pacific, but regions like West Asia too.**

- **The U.S. has realised that it needs not just allies,** but also credible partners in its security architecture, including in the Indo-Pacific, and **reached countries like India to partner with them in smaller pluri-lateral groupings** and joint security initiatives.

- Further, ASEAN countries are getting increasingly vulnerable, with the South **China Sea remaining a conflict point.**

- While India is a member of many pluri-lateral groups on both sides of the geo-strategic 'divide', **its engagement in Quad and with BRICS present the country with interesting, and sometimes contrasting, dilemmas.**

- India has enthusiastically embraced Quad and its strategic objectives.

- The fact that India, during its presidency of the UNSC in 2021, held a high-level virtual event on 'Enhancing Maritime Security', which was attended by the Russian President, among others, indicates the importance India attaches to strengthening maritime security in the Indo-Pacific and beyond.

- India was an enthusiastic founder of BRICS. In fact, at the 10th annual summit of the BRICS in 2018, **India reminded the BRICS members of its 'reformed multilateralism' vision.**

In the backdrop of this, let us understand the significance of QUAD and BRICS and their importance for India.

The Quad is an informal strategic dialogue which is widely viewed as a response to increased Chinese economic and military power.
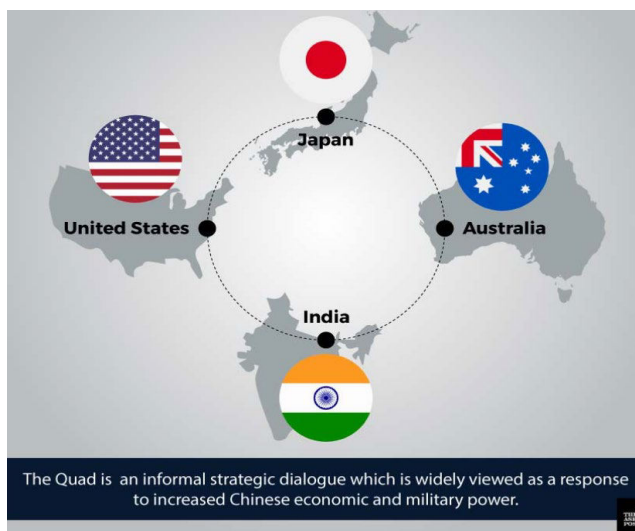
WHAT IS QUAD?

- The occurrence of a Tsunami in the Indian Ocean led to **India, Japan, Australia, and the US to build an informal alliance** for collaborating on disaster relief efforts.

- **In 2007, Japan formalised it into the Quadrilateral Security Dialogue or the QUAD.**

- The Quadrilateral Security Dialogue (QSD), *the Quad* is an **informal strategic forum** comprising, *United States of America (USA), India, Australia and Japan.*

- One of the primary objectives of the Quad is to work for a **free, open, prosperous and inclusive Indo-Pacific region.**

- **The group met for the first time in 2007** on the **sidelines of the Association of Southeast Asian Nations (ASEAN).**

- The Quad regained momentum in 2017, driven by shared concerns regarding the assertiveness of China in the Indo-Pacific region and a desire to uphold peace and stability in the Indo-Pacific.

- **It was in 2017** when the first official talks under the Quad took place in the **Philippines.**

- **Quad Summit in 2022 (Tokyo):**
  o The Quad summit witnessed the launch of a new initiative for continuous collaboration in the *maritime domain, space, climate change, health, and cyber security.*
  o The member countries pledged to *meet challenges for ensuring rules-based maritime order, including in the East and South China Seas.*
  o The members strongly opposed any coercive, provocative, or unilateral actions that seek to change the status quo.

SIGNIFICANCE OF QUAD

- **Delivering outcomes for the Indo-Pacific:** In response to the region's priorities and most pressing challenges, including *health security, climate change,* infrastructure*, critical and emerging technology, cyber security, disaster relief, maritime security, countering-terrorism*, etc.

- In the face of the global COVID-19 pandemic, the Quad gained further relevance as the group shifted its focus to vaccine diplomacy, health security, and economic recovery.

- **ASEAN centrality:** Quad partners work closely to ensure efforts complement wider engagement in the Indo-Pacific, both bilaterally and through regional institutions.

- **All Quad partners are long-standing ASEAN Dialogue Partners** and steadfast supporters of *ASEAN centrality, the ASEAN-led regional architecture and the ASEAN Outlook on the Indo-Pacific.*

- **Strengthened bilateral relationships among Quad nations:**
  - India now has **ministerial-level '2+2' (defence and foreign minister)** meetings with **Japan and the United States** and **Australia.**
  - **India and the United States** further signed a communications compatibility and security agreement **(COMCASA) in 2015** and **a logistics exchange memorandum of agreement (LEMOA) in 2016.**
  - A major obstacle to closer Japan-India relations was removed with the passage of the **landmark Japan-India civil nuclear cooperation agreement in May 2017**.
  - **Japan became a permanent member** of the formerly bilateral **U.S.-India naval exercise, Malabar, in 2015.**
  - **The AUSINDEX exercise between Australia and India** grew in size and scope.
  - The function of these bilateral and mini-lateral exercises was to create *trust among the militaries of the Quad nations, promote interoperability, and **set the foundation for political ties at a deeper level.***

- **Grappling with geopolitics:**
  - **Japan's foreign policy has become more explicitly anti-Chinese,** with emphasis on the physical security of its territorial space and **linking defence of Northeast Asia to the rest of the Indo-Pacific.**
  - **Australia views China as a strategic rival** and seeks security through partnerships, both formal and informal, **with other powers, rather than having to balance relationships with China.**
  - **As for the U.S.,** it benefits from the Quad principally because, until the emergence of the framework, *Washington lacked any overarching instrument to manage its many security relationships in the Indo-Pacific.*

- The U.S. is now party to a structure that **oversees all the key lines of communication from Northeast Asia through the Indian Ocean,** and stands to gain from intelligence sharing.

- **Significance for India:**
  - It is believed that the **forum strategically counters China's economic and military rise.** Interestingly, if Chinese hostilities rise on the borders, **India can take the support of the other Quad nations** to counter the communist nation.
  - India can even take the help of its **naval front and conduct strategic explorations** in the Indo-Pacific region.
  - From a security perspective, **New Delhi's relationship with Washington delivers effective balance against China** at both the **strategic (nuclear deterrence) and conventional levels.**
  - On the diplomatic field, a U.S. partnership adds weight to **India's geopolitical heft**. As India strives to grow its economy, *it needs the U.S. military presence to ease its defence spending burden.*
  - Being **a strategic partner of the U.S.** helps India attain **better access to the lucrative U.S. market and thereby build its citizens' affluence.**
  - **India's vision goes beyond viewing Quad as a geopolitical security objective vis-à-vis China.**
  - India aims to redraw the security and techno-economic architecture of the Indo-Pacific region.

  - With Quad now working on reorientation of global **supply chains of critical technologies** and on a range of areas of direct strategic relevance to the region, including digital, telecom, health, power, and semiconductors, **it has underlined that**

development too has a security perspective which cannot be ignored.

The BRICS countries are considered the **foremost geopolitical rival to the G7 bloc of leading advanced economies,** implementing competing initiatives such as the *New Development Bank, the BRICS Contingent Reserve Arrangement, the BRICS pay, the BRICS Joint Statistical Publication and the BRICS basket reserve currency.*

- Initially termed **BRIC in 2001,** the acronym BRICS was coined by Jim O'Neill, a Goldman Sachs economist, to encompass **Brazil, China, India, and Russia.**

- **The BRIC grouping's first formal summit** was held in **Yekaterinburg, Russia,** commenced in **2009.** During this summit, BRIC Leaders issued a Joint Statement elucidating the objectives of the BRIC collaboration.

- **South Africa** officially became a member nation in 2010. **The group was renamed BRICS** – with the **"S" standing for South Africa – to reflect the group's expanded membership.**

- **In 2023, Egypt, Ethiopia, Iran, Saudi Arabia and UAE joined BRICS.**

- These BRICS nations possess a notable competitive advantage owing to their **economical labor costs, advantageous demographics, and copious natural resources,** particularly during the era of the global commodities upswing.

SIGNIFICANCE OF BRICS

BRICS has evolved into a unified and purposive entity, championing the cause of reforms in major multilateral institutions with a clear intention of democratising global governance.

- **Establishment of the New Development Bank (NDB) in 2013:**
  o Endowed with an initial **capital** of **US$50 billion, the NDB was conceived as a credible alternative to existing financial institutions** *(like IMF and World Bank which are dominated by the western powers).*
  o The equitable distribution of the initial subscribed capital among BRICS members **underscores the commitment to collective action.**

- **Trade and investment landscape within BRICS**:
  o Promising dynamics between India and China within the broader BRICS umbrella.

o The bilateral trade between **India and China reached a historic high of US$ 135.98 billion in 2022.**

o The contribution of BRICS members to global exports has been on the rise, with the growth rate of exports between BRICS member states surpassing the global average.

o This has yielded concrete advantages and **played a pivotal role in fostering increased investment within the bloc.**

o **The intra-BRICS integration encompasses** free trade agreements and export-oriented strategies, including tariff exemptions, tariff reductions, across various goods and service sectors. This proactive approach has led to substantial growth, expanding trade, and **a rise in both inward and outward foreign direct investment (FDI).**

o **According to UNCTAD data, cumulative foreign direct investment (FDI)** holdings within the BRICS nations substantially **increased from US$ 27 billion in 2010 to US$ 167 billion in 2020.**

o This shift collectively represented **1.3 percent to 4.7 percent of their total FDI assets, marking considerable growth.**

o Notably, **China played a predominant role**, being the most significant contributor and recipient of FDI among BRICS nations.

o Moreover, **Brazil and India** also observed robust **investment expansions from fellow BRICS members.**

- **BRICS Contact Group on Economic and Trade Issues (CGETI):**
  o Acknowledging the significance of enhancing BRICS nations' attractiveness as investment destinations, even amid the challenges posed during the COVID-19 pandemic**, CGETI has urged additional measures to create a conducive atmosphere for sustainable development-oriented investments.**
  o This includes initiatives to **improve transparency and simplify national administrative processes and prerequisites.**

SIGNIFICANCE OF THE INCLUSION OF NEW MEMBERS

1. Enhanced inclusivity:

- Including more countries from Africa and Asia will enhance BRICS' representation of developing nations and diversify its geographical reach.

- A more diverse BRICS gains legitimacy advocating for Global South issues like fair-trade, climate justice, and technology access.

- Formerly representing 40% of the world's population and a quarter of GDP, expanded BRICS now covers nearly half the global population.

2.Economic strength:

- BRICS, earlier represented 24% of global GDP and now with the inclusion of five new economies, it could increase its influence in IMF and World Bank forums.

- In 2022, **intra-BRICS trade reached $500 billion** and the expansion could enhance trade and investment, strengthening economic ties and **bargaining power.**

- Saudi Arabia, Iran, and the UAE, among the world's top-10 oil producing countries, **enhance BRICS' global influence in shaping energy policies** and market dynamics, strengthening its role as a Global South champion.

3. Advocacy for reforms:

- BRICS have collectively called for **reforms to the UN Security Council** to include more representation from the Global South.

- An expanded BRICS can bolster the Global South's political voice in international forums, advocating for reforms aligned with their interests.

- BRICS nations agreed to **promote use of local currencies in trade to reduce dependence on major global currencies.**

- The expanded BRICS could provide grounds for this practice. The UAE and India have agreed to trade in Rupees and Dirhams instead of the US Dollar.

With India being the only country common to both Quad and BRICS, the country has immense opportunities at its doorsteps which can be explored with the right strategic policies to serve its larger goals.

OVERLORDS OF THE DEVELOPING WORLD:

IMF'S INFLUENCE ON KENYA

#INTERNATIONAL ORGANIZATION

PRIMARY SOURCE | THE HINDU

The IMF loans to Kenya have led to political storm in the country.

ABOUT IMF

- The IMF is an independent international organization.

- It is a cooperative of 190 member countries, whose objective is to promote world economic stability and growth.

- It was originally created in 1945 as part of the *Bretton Woods agreement*, which attempted to encourage international financial cooperation by introducing a system of convertible currencies at fixed exchange rates.

- The member countries are the shareholders of the cooperative, providing the capital of the IMF through quota.

- It is one of several autonomous organizations designated by the United Nations (UN) as "Specialized Agencies," with which the UN has established working relationships.

- It is a permanent observer at the UN.

- Its headquarters is in Washington DC.

- The IMF began its operations in 1947, and France became the first country to draw funds from the IMF in 1947.

- Membership of the IMF is compulsory to be part of the International Bank for Reconstruction and Development (IBRD or World Bank).

IMF'S LENDING PROVISIONS

- **Extended Fund Facility:** It provides financial assistance to countries facing serious medium-term balance of payments problems because of structural weaknesses that require time to address.

- **Extended credit Facility:** It provides medium-term financial assistance to low-income countries (LICs) with protracted balance of payments problems.

- **Rapid Financing Instrument:** It provides prompt financial assistance to any IMF member country

facing an urgent balance of payments need. It is one of the facilities under the General Resources Account (GRA) that provide financial support to countries, including in times of crisis.

- **Rapid Credit Facility:** It provides fast concessional financial assistance to low-income countries (LICs) facing an urgent balance of payments need.

- **Flexible Credit Line:** It is designed to meet the demand for crisis-prevention and crisis-mitigation lending for countries with very strong policy frameworks and track records in economic performance.

- **Resilience and Sustainability Facility:** It provides affordable long-term financing to countries undertaking reforms to reduce risks to prospective balance of payments stability, including those related to climate change and pandemic preparedness.

PROTESTS IN KENYA AGAINST IMF-BACKED FINANCE BILL

- **Mass protests in Kenya**: Protests erupted against a new finance Bill introduced by President William Ruto's government.

- **Spread of demonstrations**: Protests spread across all 47 counties, with attempts to storm Parliament in Nairobi.

- **Government crackdown**: Police firing resulted in 30 deaths and over 200 injuries.

- **President's response**: President Ruto announced he would not sign the controversial Bill, which sought to raise taxes on essentials such as bread, cooking oil, sugar, and diapers.

- **Protesters' demands**: Despite backing down, protesters called for Ruto's resignation, accusing him of prioritizing the IMF over Kenyan citizens, highlighted by the protest sign: "Kenya is not IMF's lab rat."

KENYA'S RELATIONSHIP WITH THE IMF

- **Loan agreements**: Kenya signed a four-year loan agreement with the IMF for $2.34 billion in 2021, increasing to $3.6 billion with another deal in May 2023.

- **IMF loan conditions**: IMF loans come with conditions, including austerity measures to raise revenue collection to 25% of GDP.

- **Austerity measures**: These included tax hikes, budget cuts, elimination of subsidies on fuel and electricity, and reduced spending on education and health.

- **President Ruto's compliance**: Upon taking office in September 2022, Ruto cut subsidies on maize and fuel, leading to inflation and protests in March and July 2023.

- **Continued fiscal measures**: Despite protests, Ruto continued with fiscal consolidation measures, securing a staff-level agreement with the IMF for another $976 million, conditional on passing the finance Bill.

- **Uncertain future of IMF funds**: With the Bill's abandonment, the future flow of IMF funds is in doubt.

HISTORICAL CONTEXT AND GLOBAL DYNAMICS

- **Recurring scenario**: Kenya, like many African nations, often balances between the interests of citizens and those of private investors and Western commercial banks, represented by the IMF.

- **IMF's historical role**: The IMF, established in 1944 at the Bretton Woods Conference, serves American foreign policy and Western financial elites.

- **Power dynamics**: The IMF's governance reflects the power dynamics of the post-World War II era, with the U.S. holding a 16.5% voting share and the G-7 countries controlling over 40%.

IMF'S INFLUENCE AND STRUCTURAL ADJUSTMENT PROGRAMS (SAPs)

- **IMF loans in Africa**: Among Africa's 54 countries, 31 had outstanding IMF loans as of March 2024, with minimal influence over IMF policies.

- **UN Secretary-General's criticism**: Antonio Guterres highlighted the outdated power relations reflected in the IMF framework.

- **Protests against IMF policies**: Countries like Kenya, Ghana, Zambia, and Pakistan have witnessed protests against IMF-imposed economic policies, particularly SAPs.

- **SAPs since 1986**: SAPs demand cuts in public spending, privatization of state enterprises, and other measures promoting export-led growth, often resulting in extreme inequality.

IMPACT OF SAPs

- **2002 World Bank-funded study**: The Structural Adjustment Participatory Review International Network tracked the impact of SAPs in nine countries, identifying four main ways they impoverish local populations:

o Demise of domestic manufacturing sectors and loss of employment for small producers.

o Decimation of small farms and poor rural communities due to agricultural, trade, and mining reforms.

o Job losses triggered by economic changes.

o Increased poverty due to the reduced role of the state in providing guaranteed access to essential services.

ATTEMPTS AT REFORM AND CONTINUING CHALLENGES

- **Introduction of 'social spending floors'**: The IMF introduced measures to protect public spending on education, health, and social protection.

- **Oxfam analysis**: Found that for every $1 encouraged for public services, $6 were cut through austerity measures.

- **Ongoing influence**: Despite efforts at reform, the IMF and the World Bank continue to shape economic policies in low and middle-income nations, often prioritizing decisions made in Washington over local needs.

CONCLUSION

- **Enduring control**: The IMF and the World Bank remain influential in determining economic policies in developing nations, as demonstrated by Kenya's ongoing struggles.

- **Protests as testimony**: Kenyans' protests reflect the continued tension between national interests and international financial dictates.

UN SECURITY COUNCIL

#INTERNATIONALORGANISATIONS #UNSC
#PRELIMS NUGGETS

PRIMARY SOURCE | THE HINDU

*Despite consistent efforts by India and other countries, **the move for United Nations Security Council (UNSC) reform** and **expansion has made 'no progress'** so far. This was emphasised by the former Indian Ambassadors to the United Nations. India continues to push its demand for inclusion in the top global decision-making body. **India and its partners in the G-4 (Brazil, Germany and Japan) claim a permanent seat at the UNSC.***

ABOUT SUMMIT FOR THE FUTURE

- **The Summit of the Future at the United Nations (September 22-23)** is expected to bring together world leaders to discuss plans **to 'reboot' the UN.**

- Member States agreed to hold the Summit in September 2024. They also agreed that the Summit would have an outcome, **'a Pact for the Future'.**

- The proposal for a Summit of the Future originated in **the Our Common Agenda report.**

- Our Common Agenda is an agenda of action, designed to strengthen and accelerate multilateral agreements, *particularly the 2030 Agenda,* and make a tangible difference in people's lives.

- It contains recommendations across 4 broad areas for: *renewed solidarity between peoples and future generations, a new social contract anchored in human rights, better management of critical global commons, and global public goods that deliver equitably and sustainably for all.*

- It presents *the Secretary-General's vision* on the future of global cooperation through an inclusive, networked, and effective multilateralism.

- **They articulated the overarching purpose of the Summit, and the Pact:** to reaffirm the UN Charter; to reinvigorate multilateralism; to boost implementation of existing commitments; to agree on solutions to new challenges; and to restore trust.

WHAT IS THE UNSC?
United Nations Security Council

It is — One of the six main organs of the United Nations.

Primary responsibility — To maintain international peace and security

First session: held on 17 Jan, 1946

Location: Church House, Westminster, London

Permanent HQ: At the UN Headquarters in New York City

UNITED NATIONS SECURITY COUNCIL (UNSC)

- **The UNSC is one of the six principal organs of the United Nations** and is charged with

ensuring **international peace and security,** recommending the **admission of new UN members to the General Assembly, and approving any changes to the UN Charter**.

The UN has 6 main organs – all were established in 1945 when the UN was founded.

General Assembly | Security Council | Economic and Social Council | Trusteeship Council | International Court of Justice | Secretariat

- Its powers as outlined in the **United Nations Charter include:**
  o *establishing peacekeeping operations, enacting international sanctions, and authorizing military action.*
  o The UNSC is the **only UN body with authority to issue resolutions that are binding on member states.**
  o Like the UN as a whole, the Security Council was created after World War II to address the failings of the League of Nations in maintaining world peace.
  o **First session: 1946**
  o Resolutions of the Security Council are typically enforced by **UN peacekeepers,** which consist of **military forces voluntarily provided by member states** and funded independently of the main UN budget.
  o *The Rome Statute of the International Criminal Court recognizes that the Security Council has authority to refer cases to the Court in which the Court could not otherwise exercise jurisdiction.*
  o The Council exercised this power for the first time in 2005, when it referred to the Court 'the situation prevailing in Darfur since 2002'.
  o Since Sudan is not a party to the Rome Statute, the Court could not otherwise have exercised jurisdiction.
  o **The body's presidency rotates monthly amongst its members.**

MEMBERS OF THE UNSC:

The UNSC consists of five permanent members and ten non-permanent members.

Permanent Members:

- The permanent members of the United Nations Security Council **(Permanent Five, Big Five, or P5)** are the five sovereign states to whom the UN Charter of 1945 grants a permanent seat on the UN Security Council: **China, France, Russia, United Kingdom, and United States.**

- **All have the power of veto** which enables any one of them to *prevent the adoption of any 'substantive'* draft *Council resolution, regardless of its level of international support.*

- **Under Article 27 of the UN Charter, Security Council decisions on all substantive matters require the affirmative votes of three-fifths (i.e. nine) of the members.**
  o *A negative vote or a 'veto' by a permanent member prevents adoption of a proposal, even if it has received the required votes.*
  o **Abstention is not regarded as a veto in most cases,** though *all five permanent members must vote for adopting any amendment of the UN Charter or any recommendation of the admission of a new UN member state.*
  o **This veto right does not carry over into General Assembly matters or votes, which are non-binding.**
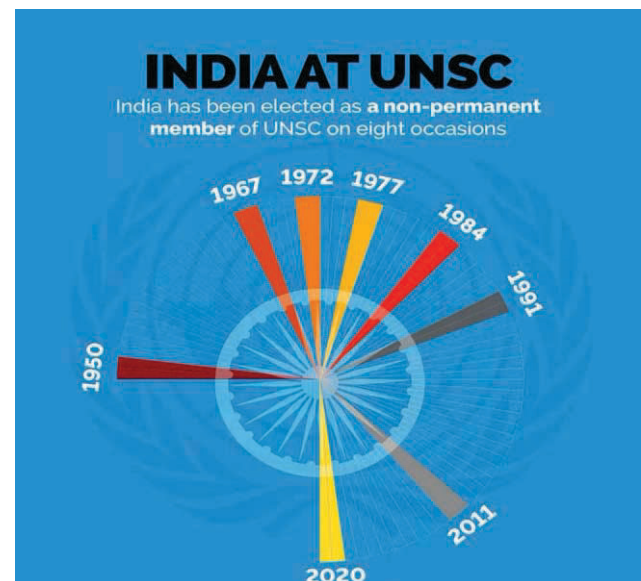
(India's 2020 term ended in December 2022)

Non-Permanent Members:

- **These ten non-permanent members are elected by the United Nations General Assembly for two-year**

terms starting on 1 January, **with five replaced each year.**

- To be approved, **a candidate must receive at least two-thirds of all votes cast for that seat.**
- **A retiring member is not eligible for immediate re-election.**
- The temporary members hold seats on a rotating basis by geographic region.

MEMBERSHIP REFORM

- Proposals to reform the Security Council began with the conference that wrote the UN Charter and have continued to the present day.
- There has been discussion of increasing the number of permanent members.
- **The countries which have made the strongest demands for permanent seats are Brazil, Germany, India and Japan (G4 nations).**
- **Italy leads a movement known as Uniting for Consensus in opposition to the possible expansion of permanent seats.** Core members of the group include *Canada, South Korea, Spain, Indonesia, Mexico, Pakistan, Turkey, Argentina and Colombia.*
- Their proposal is to create a new category of seats, still non-permanent, but elected for an extended duration (semi-permanent seats).

TECHNOLOGY SECURITY INITIATIVE LAUNCHED BETWEEN UK & INDIA

#INTERNATIONAL RELATIONS #PRELIMS NUGGETS

PRIMARY SOURCE | The Indian EXPRESS

During the visit of UK's new Foreign Secretary David Lammy, India and the UK launched the UK-India Technology Security Initiative (TSI) to spearheaded by the National Security Advisors of both countries. The Technology Security Initiative aims to expand collaboration between India and UK on many critical and emerging technologies.

ABOUT TECHNOLOGY SECURITY INITIATIVE

- Increasing role of technology in national security and economic development.
- Reinforces already existing collaborative efforts in various technologies, broaden mandates of existing mechanisms and establishing new mechanisms of cooperation in critical & emerging technologies.
- **Collaboration Global Tech Governance:** As part of Strategic Tech Policy Dialogue, UK and India will hold a dialogue on global tech governance to coordinate positions on digital technical standards and support multi-stakeholder model of internet governance.
- **Coordination:**
  - Technology Security Initiative will be coordinated by National Security Advisors (NSAs) of both countries through existing and new dialogues.
  - NSAs will set priority areas and identify interdependencies for cooperation on critical and emerging tech that will lead to building of meaningful technology value chain partnerships between India and UK.
  - Progress under the mission will be reviewed on a half-yearly basis at the Deputy National Security Advisors level.
  - A Bilateral mechanism will be established to be led by India's Ministry of External Affairs and UK Government for promotion of trade in critical and emerging technologies, resolution of relevant licensing and regulatory issues.

HEIGHTENED TENSIONS IN WEST ASIA

#EXTENDED NEIGHBOURHOOD

PRIMARY SOURCE | *The Indian* **EXPRESS**

The targeted killings of top Hamas and Hezbollah leaders have increased the possibility of all-out war in West Asia to perhaps its highest level since the October 7 attacks on Israel.

OVERVIEW

- Hamas killed around 1,200 Israelis and took 250 hostage on October 7, 2023, and Israel's response with air strikes and ground operations is estimated to have killed more than 40,000 people in Gaza so far.

- Yet, the recent deaths of three key figures may have more profound implications.

- **Key figures and assassinations:**

  o **Fuad Shukr**: A senior Hezbollah commander, was killed in an Israeli airstrike. Israel claimed Shukr was responsible for a rocket attack on Israeli-controlled Golan Heights.

  o **Ismail Haniyeh**: The head of Hamas' political bureau, was killed in Tehran. This act was particularly provocative, occurring on Iranian soil.

  o **Mohammed Deif**: He was reportedly killed in Gaza

OBJECTIVES OF ISRAEL

1.Demonstration of intent:

- These targeted killings are seen as a huge victory for Israel, **which had vowed revenge for the October 7 attacks,** a catastrophic failure of its intelligence, operations, and response mechanisms.

- **Its Swords of Iron military offensive in Gaza** had the twin objectives of **destroying Hamas and freeing the hostages.**

- By killing key figures, Israel can claim to have substantially **achieved the target of neutralising Hamas.**

- Israel seeks to **restore its strategic credibility and reputational damage of Mossad.**

2.Message to Iran:

- By targeting the leaders of Hezbollah and Hamas, both groups are part of **the 'Axis of Resistance' sponsored by Iran**, Israel has **redrawn the red lines of the conflict in West Asia.**

- The possibility of all-out war in the region is perhaps the highest now since the October 7 attacks.

- In April, Israel had previously targeted Iranian military officials in Syria, leading to a retaliatory aerial attack from Tehran. The l**atest strikes against Iranian-affiliated leaders further** illustrate Israel's readiness to confront Iranian **interests directly, even within Iranian territory.**

- Israel **aims to expose the vulnerabilities of Iran's intelligence and security establishment** in much the same way as the Hamas attack had exposed and embarrassed the Israelis.

- Israel has sent the message that **Iran's security umbrella cannot protect the leaders of Hamas.**

POTENTIAL IRANIAN RESPONSES

While the three targeted assassinations and Israel's military response in Gaza is intended to re-establish its deterrence against Iran and its proxies, Tehran cannot be expected to take it lying down. Supreme Leader Ayatollah Ali Khamenei and President Pezeshkian have vowed revenge. **There are three scenarios on the possible Iranian response.**

1.Direct retaliation:

- Iran may opt to **strike Israeli targets within Israeli territory,** similar to the aerial attacks of April. Such a response would heighten regional tensions and could escalate the conflict further.

2.Coordinated attacks:

- **Tehran might collaborate with its allies, Hamas, Hezbollah, and the Houthis,** to launch coordinated assaults on Israeli targets. This strategy could increase the scope and scale of the conflict, potentially drawing in more regional actors.

3.Indirect targeting:

- Another possibility is for Iran to target Israeli officials in third countries, similar to the 2012 attack on an Israeli diplomat's wife in New Delhi. This approach could complicate diplomatic relations and pose security challenges internationally.

IMPLICATIONS FOR INDIA

1.Impact on regional stability:

- **About 9 million Indian nationals live and work in the region.** They are the largest source of remittances to India. The first two scenarios could trigger a broader conflict, **affecting the safety of Indians in West Asia.**

- The potential disruption of energy supplies, **given that two-thirds of India's crude oil and natural gas imports come from this region,** would also have significant economic implications.

2.Diplomatic and security challenges:

- India faces a difficult diplomatic balancing act. India has so far made no statements on the volatile situation. **New Delhi, which has friends across the region, does not want to get drawn into regional rivalries.**

- The country has issued travel advisories for Israel and Lebanon, and airlines have adjusted their routes to avoid the region.

Other countries in the region have launched efforts to de-escalate the situation. Efforts of these regional players, **such as Saudi Arabia, Qatar, and Oman**, to mediate **could influence India's strategy.**

PRACTICE QUESTIONS

MCQS

Q1. Consider the following statements with reference to the United Nations Security Council (UNSC):

1. The veto right of the Permanent members is binding over the United Nations General Assembly matters.
2. A retiring member of the UNSC is eligible for immediate re-election.
3. The UNSC has authority to refer cases to the International Criminal Court in which the Court could not otherwise exercise jurisdiction.

Which of the statements given above is/are not correct?

(a) 1 and 2 only   (b) 2 and 3 only
(c) 1 and 3 only   (d) 1, 2 and 3

Q. Technology Security Initiative is a cooperation mechanism between India and which of the following countries?

(a) USA   (b) UK
(c) European Union   (d) Russia

Q. Golan Heights is located at the borders between which of the following countries?

(a) Israel and Palestine   (b) Israel and Jordan
(c) Israel and Lebanon   (d) Israel and Syria

Q. Consider the following statements about QUAD:

1. There have been no summit level meetings under the QUAD format.
2. South Korea is a member of QUAD.
3. QUAD format focuses only on the security in Indo-Pacific region.

How many of the statements given above is/are correct?

(a) Only one   (b) Only two
(c) Only three   (d) None of the above

Q. Consider the following statements about International Monetary Fund:

1. IMF is subsidiary body of the United Nations.
2. The World Development Report is published by IMF.
3. Extended Fund Facility is a tool of the IMF.

Which of the statements given above is/are correct?

(a) 3 only   (b) 1 and 2 only
(c) 2 and 3 only   (d) 1, 2 and 3

DESCRIPTIVE QUESTIONS

Q1. Highlight the salience of QUAD in India's foreign policy. How far has the grouping has been successful in forwarding India's interests?

Q2. Bretton Woods institutions need to be reformed in the light of new global realities. Comment.

Answers : *1-a, 2-b, 3-d, 4-d, 5-a*

SOCIETY AND SOCIAL JUSTICE

GS PAPER I & GS PAPER II (MAIN)

THE CASE FOR A CASTE CENSUS

#POPULATION & ASSOCIATED ISSUES #SOCIETY
#GOVERNMENT POLICIES & INTERVENTIONS
#SOCIAL JUSTICE #MAINS EXHAUSTIVE

PRIMARY SOURCE | THE HINDU

*Peter Drucker famously said, "**Only what gets measured gets managed."** The problems of social groups that have been historically discriminated against **(be it by caste, race, religion, gender, disability etc.) cannot be resolved without collecting data group-identity wise**. Doing so is not a capitulation to identity politics but a vital step towards informed policymaking and inclusive development.*

CASTE-BASED CENSUS TIMELINE

- **Pre-Independence: 1871 Census** was the first attempt to measure the population and enumerate caste data across India. **1931 Census** was the last exercise to enumerate caste data.
- **Post-Independence:**
  - Union of India after Independence, decided as a matter of policy not to enumerate caste wise population **other than SCs and STs.**
  - Thus, India's largest caste bloc – **Other Backward Classes – have not figured in the any census from 1951-2011**.
  - There is **no proper estimate for the population of OBCs**, various groups within the OBCs, and others.
- **In 1961**, the **GOI advised States to conduct their own surveys** and draw up **State-specific OBC lists if they so desired**.
- **Aftermath of Mandal Commission:**
  - In **1979, Mandal commission** (Socially and Educationally Backward Classes Commission) suggested expansion of **affirmative action to include other backward classes**.
  - OBCs, as per **1931 census, amounted to 52% of Indian population.** Based on which a **27% reservation** was given to the OBCs in 1990.
  - Later appeared demand for introduction OBC category in the **decennial census** to count them.
- **Socio-Economic Caste Census 2011:**
  - **SECC 2011 was first caste-based census since 1931**.
  - It was conducted by **Ministry of rural development (MoRD) and Ministry of housing and urban poverty alleviation** in rural and urban areas respectively.
  - This was **first time** such a comprehensive exercise has been carried out for **both rural and urban India**, which included **caste-wise population data**.
  - **2011 SECC data, excluding the caste data**, was finalised and published by the government.
- **Demand being raised to enumerate castes as part of Census 2021 itself.** To make available authentic data on caste-wise population and their socio-economic conditions.

NEED FOR CASTE-BASED CENSUS

- **Social imperative:** Caste continues to be a foundational social construct in India. Only about 5% of Indian marriages were inter-caste as of 2011-12. The use of caste surnames and caste marks is still widespread. Residential segregation by caste persists. Choices of candidates for elections and ministers for Cabinets continue to be dictated by caste considerations.
- **Legal imperative :** Constitutionally-mandated policies of social justice which include **reservations in electoral constituencies**, **education and public employment cannot be pursued effectively without**

detailed caste-wise data. Even though the Constitution uses the word **class instead of caste**, various rulings of the **Supreme Court have held caste as a 'relevant criterion', 'sole criterion' or 'dominant criterion' for defining a backward class**, and have demanded detailed caste-wise data for upholding reservation policies.

- **Administrative imperative** : Detailed c**aste-wise data is necessary to avoid/correct wrongful inclusions of undeserving castes** and **exclusions of deserving castes**, and to guard against a few dominant castes in a reserved category crowding out others. It is also **needed for sub-categorising castes within a reserved category** and to determine the income/wealth criterion for the creamy layer.

- **Moral imperative:** The absence of detailed **caste-wise data** has helped a **coterie of elites, among upper castes and dominant Other Backward Classes (OBCs),** to corner a disproportionate share of the nation's assets, incomes, and positions of power**. Such situation leads to the demands of OBC subcategorization for ensuring a more equitable distribution of benefits. -** *The Justice Rohini Commission is working on sub-categorization within OBCs to address this issue.*

- **Estimate change in demography:** The current reservations and welfare schemes for OBCs (Other Backward Classes) are based on population estimates **from the 1931 census.** Since then, India's demographic landscape has significantly changed. A caste-based census can provide updated data to ensure that policies and schemes are aligned with the current population dynamics.

- **Rationalize Reservation Policy:** Land fragmentation and agricultural stagnation have turned many upper-caste landowners into marginal farmers, while rising rural wages have benefited some backward classes, including Dalits. This **shift necessitates a review and rationalization of the reservation policy.** Accurate data can ensure that reservations are based on the **current socio-economic realities of different castes**. For example, the Patidar agitation in Gujarat and the Jat agitation in Haryana highlight the demand for reservations based on contemporary socio-economic conditions

- **Assess impact of Affirmative action:** A socio-economic caste census can help assess the **impact of reservations on OBCs and identify the relative deprivation of some castes.** This assessment can **inform future policy decisions** and ensure that affirmative action **achieves its intended goals**. For example, data from such a census could reveal whether **reservations have improved educational and employment outcomes for specific OBC groups.**

CONCERNS AGAINST CASTE BASED CENSUS

- **Reinforces Caste Identities:** Enumerating castes in a census might reinforce the caste identities prevalent in society, which could perpetuate social divisions. For instance, identifying individuals by caste in official documents could entrench these identities and exacerbate caste-based discrimination.

- **Vote bank politics:** Caste-wise data could be used as a **tool for caste-based political mobilization, leading to vote bank politics.** Politicians might exploit this data to **garner support from specific caste groups, undermining the broader goals of social cohesion and national integration.** For example, political parties might promise caste-specific benefits to secure votes, leading to divisive politics.

- **New demands for Reservation:** Numbers about OBCs might provide a new issue for regional parties to pressure the central government for an **OBC quota in central government jobs and educational institutions**. This could lead to increased demands for **reservations, potentially beyond the current 50% cap**. For instance, if the census reveals a higher **OBC population, it could lead to demands for a higher reservation quota**, as seen with the recent protests by various communities.

- **Federal concerns:** According to the 7th Schedule of the Constitution, **the census is under the domain of** the **Union government**. State governments conducting their own caste censuses could be against the constitutional spirit and create conflicts between the center and states. **For example, the Bihar government's decision to conduct its own caste census led to debates on constitutional propriety and federal authority.**

CONCERNS LACK LOGICAL BACKING

- **Socially divisive exercise:** Critics argue that a caste census could be socially divisive. However, India's census already enumerates religion, language, and region, which are as divisive as caste, if not more.

Casteism will not disappear by avoiding its enumeration any more than communalism or regionalism will by ignoring religion or language.

- **Administrative nightmare:** While some claim that a caste census is an administrative nightmare, **India's census has successfully enumerated 1,234 castes in the SC category and 698 tribes in the ST category.** Therefore, it is difficult to understand why the enumeration of the 4,000-odd other castes, most of which are State-specific, should pose an intractable problem.

- **Demands for increased reservations :** On the contrary, the **availability of caste-wise Census data would help curb arbitrary demands from caste groups and capricious decision-making** by governments. Policy makers would be able to objectively debate and address the claims of, say, the Marathas, Patidars, Jats, or any other groups for reservations. **But governments prefer fuzzy data because it gives them the latitude to implement reservations arbitrarily for electoral considerations.**

Conclusion A caste-based census has the potential to provide **valuable data for social justice and policy formulation**. However, it also poses significant risks, including **reinforcing caste identities and promoting divisive politics.** A **balanced approach**, with **robust safeguards** and a focus on using the data to **promote equality and social cohesion, is essential.**

KEY TAKE AWAY FROM ARTICLE

WHY CASTE-WISE CENSUS DATA OF THE OBCS IS ESSENTIAL?

Inclusion of OBCs in the Census

- The OBCs, like SCs and STs, have constitutional provisions for reservations in **education (Article-15(4)) and public employment (Article 16(4))**. However, there is **no reservation for OBCs in electoral constituencies** for MPs and MLAs. For this, **caste-wise Census data of the OBCs is essential,** which should have been included in the **2001 Census, but it was not.**

- Further, When states like Uttar Pradesh, Madhya Pradesh etc atte**mpted to implement OBC reservations in local body elections, the High Courts and Supreme** Court **stayed these efforts due to the lack of caste-wise data**. The judiciary demands such data to **uphold reservations, while the executive has avoided collecting it.**

- **Authority of Census Data:** While the **Census is a Union subject**, the **Collection of Statistics Act, 2008 allows states and local bodies** to gather necessary statistics. So **Census data carries** more **authority and is less contested**.

How an Attempt at Caste Census Failed

- In **2010**, after lobbying by OBC leaders, Parliament unanimously resolved to include **caste enumeration in the 2011 Census.**

- However, the **Socio Economic and Caste Census (SECC)-2011 was poorly executed**, resulting in an unreliable figure of 46 lakh castes, and the results were never released.

- The **SECC-2011's failure stemmed from its execution outside the Census Act, 1948,** by the Union Ministries of Rural Development and Urban Development, which lacked experience in sociological surveys.

- Despite the 2010 resolution, the **Central government announced in 2021 that it would not include caste enumeration** in the next Census.

THE WAY FORWARD

To ensure an effective and reliable caste census, the following steps are recommended:

1. Amend the Census Act, 1948 to make **caste enumeration mandatory.**

2. Enlist **sociological and anthropological experts** to draft state-specific caste lists.

3. Design a **detailed questionnaire to capture sub-caste**, caste, larger caste group, and caste surname.

4. Utilize **internet-enabled hand-held devices** to facilitate accurate data collection.

5. Review and improve upon the **SECC-2011 approach based** on lessons learned.

JUVENILE JUSTICE (CARE AND PROTECTION OF CHILDREN) AMENDMENT ACT, 2021

#ISSUES RELATED TO CHILDREN #VULNERABLE SECTION #SOCIAL JUSTICE

PRIMARY SOURCE | THE HINDU

*The tragic incident in Pune, where a speeding car allegedly driven by a teenager killed two young techies, has brought the **Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act)** into the spotlight. This case raises important questions about the balance between rehabilitating young offenders and ensuring accountability, especially in severe offenses like drunken driving.*

KEY FEATURES OF THE JUVENILE JUSTICE (CARE AND PROTECTION OF CHILDREN) ACT, 2015

Parliament introduced and passed the Juvenile Justice (Care and Protection of Children) Act in 2015 to replace the Juvenile Delinquency Law and the Juvenile Justice (Care and Protection of Children Act) 2000.

Objective: Seeks to achieve objectives of UN Convention on the Rights of Children as ratified by India in 1992.

FEATURES

- Change in nomenclature from 'juvenile' to 'child' or 'child in conflict with law', to remove the negative connotation associated with the word "juvenile"
- 2 categories of children are protected under JJ act Children in conflict with the law and children in need of care and protection
- **Classification of Offenses**
  o Heinous Offenses: Offenses with a minimum punishment of seven years or more.
  o Serious Offenses: Offenses with imprisonment between three to seven years.
  o Petty Offenses: Offenses with imprisonment of up to three years.
- Mandates setting up **Juvenile Justice Boards** and **Child Welfare Committees** in every district. Both must have at **least one-woman member each**.
- Special provisions have been made to tackle child offenders **committing heinous offences in age group**

of 16-18 years. Juvenile Justice Board is given the option to transfer cases of heinous offences by such children to a **Children's Court (Court of Session)** after conducting preliminary assessment.

- **Streamline adoption procedures** for orphan, abandoned and surrendered children, the existing **Central Adoption**
- **Central Adoption Resource Authority (CARA)** is given the **status of a statutory body** to enable it to perform its function more effectively
- Mandatory registration of **Child Care Institutions**

CARA

- Central Adoption Resource Authority (CARA) is a statutory body of Ministry of Women & Child Development.
- CARA attained the status of a Statutory Body in 2016 under JJ Act, 2015.
- Functions as nodal body for adoption of Indian children and is mandated to monitor and regulate incountry and inter-country adoptions in accordance with the provisions of Hague Convention on Intercountry Adoption, 1993, ratified by India in 2003.
- Mandated to frame regulations on adoption-related matters from time to time under the Juvenile Justice (Care and Protection of Children) Act, 2015.
- In 2018, CARA has allowed individuals in a live-in relationship to adopt children from and within India.

PROVISIONS OF THE JUVENILE JUSTICE (CARE AND PROTECTION OF CHILDREN) AMENDMENT ACT, 2021

The Juvenile Justice (Care and Protection of Children) Amendment Act, 2021, was enacted to address certain gaps and issues in the Juvenile Justice Act, 2015. Here are the key provisions of the Amendment Act:

1. Reclassification of Offenses

Serious Offenses

- **New Classification**: The Amendment Act introduces a **new classification of offenses called "serious offenses." These are offenses that do not have a minimum sentence but carry a maximum sentence of more than seven years**.
2. **Non-Cognisable offence: According to the amendment, the crimes under the special law, with**

punishment **between** three and seven years, **have been reclassified as non-cognisable.**

3. Empowering District Magistrates

- The Amendment Act gives District Magistrates (DMs) and Additional District Magistrates (ADMs) the authority to **oversee the functioning of agencies responsible for implementing the Juvenile Justice Act.**

- DMs are now required to approve **orders of the Child Welfare Committees (CWCs) regarding the adoption of children.** This aims to ensure better oversight and accountability.

- DMs are empowered to **inspect and monitor Child Care Institutions (CCIs)** to ensure they comply with standards of care and protection.

4. Streamlining Adoption Procedures

- The Amendment Act **simplifies the adoption process by allowing DMs to issue adoption orders**. This aims to reduce delays and streamline the adoption process.

- CARA continues to function as the nodal body for adoption, ensuring that the adoption process remains regulated and standardized.

5. Strengthening Child Welfare Committees

- The Amendment Act **introduces stricter criteria for the selection of members of the CWCs,** ensuring that only qualified individuals are appointed.

- Members of CWCs **will have a fixed tenure**, promoting stability and consistency in decision-making.

CONCERNS ASSOCIATED WITH THE JUVENILE JUSTICE AMENDMENT ACT, 2021

1. Increased Reporting Difficulty:

The Juvenile Justice Amendment Act, 2021, introduces a significant change by reclassifying crimes with punishments ranging **from three to seven years as non-cognizable. This amendment raises several concerns:**

- **Challenges in Reporting**:
  - **Victims' Inability**: Due to power imbalances, children are often unable to report these crimes themselves.
  - **Parents' Reluctance**: Many parents, particularly daily wage laborers, are either unaware of how to report these crimes or are reluctant to engage with the legal process, as it could lead to a loss of income.

- **Role of Child Welfare Committees (CWC)**: CWCs often attempt to resolve matters internally rather than escalate them to the police, **preferring to "talk and arrive at a settlement."**

- **Non-Cognizable Status**: By making these offenses **non-cognizable, the amendment requires police permission to investigate,** making it more difficult to report and address serious crimes effectively.

> **According to the Code Of Criminal Procedure,** once the crimes are rendered non-cognisable, the police will be able to register an FIR only on the directions of a magistrate and a complainant will first have to approach the magistrate concerned to start the process.

Overall, this reclassification under the amendment could **lead to underreporting and inadequate handling of serious offenses against children, further disadvantaging vulnerable populations** and potentially allowing more crimes to go unaddressed.

2. Lowering the Threshold for Serious Offenses

- One of the significant changes in the 2021 amendment is the **reclassification of certain offenses**. Offenses without a minimum sentence but with a **maximum sentence of more than seven years are now classified as "serious offenses."** This change could lead to **adolescents being tried as adults for a broader range of crimes**.
  - **Example**: Previously, crimes such as culpable homicide and causing death by negligence, common in drunken driving cases, did not warrant adult trials. With the amendment, there is a fear that more juveniles may be tried as adults for these offenses.

3. Impact on Rehabilitation

- The primary aim of the juvenile justice system is to **rehabilitate rather than punish**. The amendment could undermine this goal by **increasing the likelihood of juveniles being tried in the adult criminal justice system**, which is more **punitive than rehabilitative.**
  - Studies have shown that juveniles tried in the adult criminal justice system are more likely to reoffend. **According to the National Institute of Justice, juveniles transferred to adult court are approximately 34% more likely to be re-arrested for violent and other crimes than those retained in the juvenile system.**

4. Adolescent Development

- Adolescence is a critical period of development characterized by **immature judgment and impulse control**. Trying adolescents as adults does not take into account their **psychological immaturity and greater potential for rehabilitation.**

5. Implementation Challenges: The juvenile justice system in India already faces challenges in terms of **infrastructure and trained personnel.** The amendment could exacerbate these **issues by increasing the burden on the system to conduct preliminary assessments and manage the transition of cases to adult courts.**

States/UTs having Basic Structures and Machanisms under JJ system
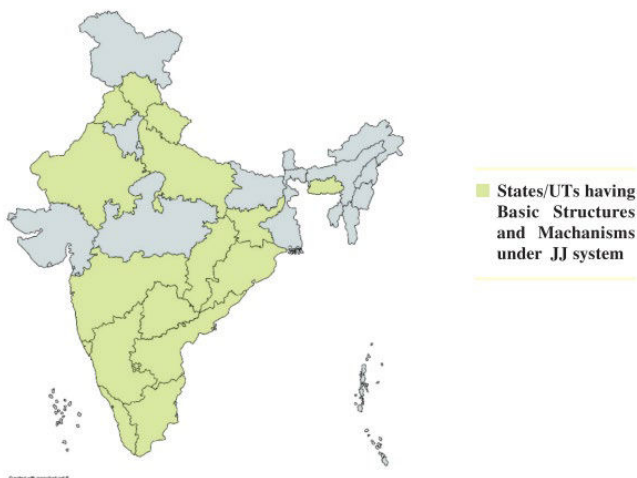
6. Legal and Procedural Challenges

Preliminary Assessments

- **Subjectivity**: The process of conducting preliminary assessments to determine if a juvenile should be tried as an adult **can be subjective and inconsistent**.
- **Delay in Assessments**: Delays in conducting preliminary assessments can lead to prolonged detention of juveniles in Observation Homes.

7. Stigmatization

- **Social Stigma**: Juveniles who have been in conflict with the law often face social stigma, making their reintegration into society challenging. Further, The stigma associated with being **labeled as a delinquent can affect juveniles'** opportunities for education, employment, and social acceptance.

8. Child Rights and Protection

- o **Protection from Abuse:** There have been reports of physical, emotional, and sexual abuse of children **within juvenile justice institutions.**

- o Inadequate monitoring and accountability mechanisms contribute to the persistence of abuse within these institutions.

9. Socio-Economic Disparities: Juveniles from **economically disadvantaged backgrounds are more likely to come into conflict with the law and face harsher treatment**. Many juveniles lack adequate family and community support, making them more vulnerable to criminal behaviour and exploitation.

Conclusion: The Juvenile Justice Act, 2015, while well-intentioned, faces numerous challenges in its implementation and effectiveness. Addressing these challenges requires a multi-faceted approach, including strengthening infrastructure, training personnel, ensuring procedural fairness, enhancing rehabilitation programs, and protecting the rights of juveniles. Effective implementation and continuous monitoring are essential to realizing the Act's goals of rehabilitating and reintegrating juveniles into society while ensuring justice and accountability.

AN OUTLINING OF URBAN TRANSFORMATION STRATEGIES

SOCIETY & SOCIAL ISSUES #URBANISATION

PRIMARY SOURCE THE HINDU

The ever-growing pace of urbanisation in India calls for sustained investments, with a vision and determination. This article sheds lights on the recent push and initiatives as mentioned in the Budget 2024-25.

WHAT CONSTITUTES URBAN AREA

Composition of Urban Population

Census Towns
54.3 million
14.4% of Urban

Statutory Towns
318.5 million
84.5% of Urban

Urban India
377.1 million
31.1% of Total

Outgrowths
4.3 million
1.14% of Total
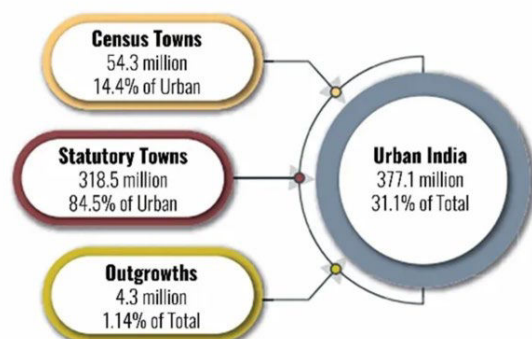
STATUS OF URBANISATION IN INDIA

- As per the census 2011, about a third of India is urban (31%), with urbanized states concentrated in relatively richer southern and western India.
- The urban population has been growing at a steady pace of 2% to 2.5% annually and estimates suggest that at present 50 crore people are living in urban areas.
- But what images from satellites tell us about built-up areas, a whopping 63% of India is urban, with urban settlements concentrated in the relatively poorer northern belt.

FACTORS THAT HAVE LED TO THE URBANIZATION IN INDIA

- **Population growth**
- **Migration**
- **Expansion of towns and cities**

EMERGING CHALLENGES DUE TO RAPID AND UNSUSTAINABLE URBANISATION

- **Governance and Planning**
  - o Rapid urbanization often outpaces effective urban planning and governance. Many cities lack comprehensive plans to manage growth sustainably. About half of our statutory towns are expanding without any master plan.
- **Overcrowding and strain on Infrastructure**: Results in congestion and additional burden over limited natural resources of urban areas.
  - o **Housing Shortage**: As of 2022, India faces a housing shortage of 18.78 million units in urban area
  - o **Slum Population**: as per the census 2011- Around 65 million people, approximately 17% of the urban population, live in slums
- **Transportation and Traffic Congestion –**
  - o **Vehicle Growth:** Delhi alone has over 11 million registered vehicles as of 2023.
  - o **Public Transport:** Cities like Bengaluru and Mumbai experience daily traffic jams, significantly reducing productivity.

- **Environmental Degradation**
  - o **Air Pollution:** Many Indian cities rank among the most polluted in the world. According to the World Air Quality Report 2022, Delhi, Ghaziabad, and Noida consistently show high levels of PM2.5.
  - o **Green Space Reduction:** Rapid urbanization reduces green spaces. For instance, Bengaluru lost 88% of its green cover between 2000 and 2020, as reported by the Indian Institute of Science.
- **Water Scarcity and Pollution**
  - o **Water Stress**: Cities like Chennai face severe water shortages, with the city experiencing "Day Zero" in 2019 when reservoirs ran dry. Recently large areas of Delhi faced huge water crisis, which ensued a political mud slinging.
  - o **Water Pollution**: Industrial waste and untreated sewage contaminate urban water bodies. The Central Pollution Control Board (CPCB) reported that 70% of India's surface water is polluted.
- **Waste Management**
  - o Urban India generates approximately 62 million tonnes of municipal solid waste annually, with a significant portion left unprocessed, leading to environmental and health hazards.
- **Health Issues**
  - o **Disease Outbreaks**: diseases like dengue, malaria, and COVID-19.
  - o **Mental Health**: rise in cases of depression and anxiety.
- **Socioeconomic Inequality**
  - o **Income Disparity**: The top 10% of urban households earn about 30 times more than the bottom 10%.
  - o **Urban Poverty**: with around 13.7% of urban population living below the poverty line (NITI Aayog, 2020).
- **Employment and Informal Sector Challenges**
  - o **Unemployment**: As per The Centre for Monitoring Indian Economy (CMIE) as of January 2022, urban unemployment stood at 8.2%.
  - o **Informal Sector**: A significant portion of urban employment is in the informal sector,.
  - o **All this culminates into enhanced sense of relative deprivation**.
- **Government initiatives to deal with urbanisation:**
  - o **100 Smart Cities Mission**: To develop smart cities across the country, making them citizen friendly and sustainable.

- o **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)**: To provide basic civic amenities like water supply, sewerage, urban transport, parks as to improve the quality of life for all especially the poor and the disadvantaged.
- o **National Mission on sustainable habitat**: It is one of the eight climate missions under the NAPCC mitigation strategy, to make the cities sustainable through improvements in energy efficiency in building, management of solid waste and to shift to public transport.
- o **National Heritage City Development and Augmentation Yojana (HRIDAY)**: For bringing together urban planning, economic growth and heritage conservation in an inclusive manner to preserve the heritage character of each Heritage City.
- o **Pradhan Mantri Awas Yojana – Urban (PMAY-U**): To addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers by ensuring a pucca house to all eligible urban households by the year 2022, when Nation completes 75 years of its Independence.

WAY FORWARD

- **Recommendations by NITI Aayog:**
- o 500 Healthy Cities Programme', for a period of 5 years to ensure holistic socio-economic development of Indian cities.
- o All the cities/towns under the proposed 'Healthy Cities Programme' should strengthen regulations to maximize the efficiency of urban land.
- o A **citizen outreach campaign** for making the process of urban planning more inclusive and accessible.
- o National Council of Town and Country Planners to be constituted as a statutory body of the Government of India to improve the governance of urban areas.
- Adopt a **circular economy system** to minimize their negative impacts on the environment.
- Preventing distress migration to cities **through Re urbanization i.e.,** providing urban like facilities in rural areas or make rural areas smart.
- The Ministry of Housing and Urban Affairs has recommended that master plans in cities should be revisited for the improved governance of cities.

SHOULD EDUCATION BE BROUGHT BACK TO THE STATE LIST?

#SOCIAL JUSTICE #EDUCATION #SUMMARY

PRIMARY SOURCE THE HINDU

The NEET-UG exam has been embroiled in controversies over the award of grace marks, allegation of paper leaks and other irregularities. The government also cancelled the UGC-NET exam after it was held, while the CSIR-NET and NEET-PG exams have been postponed.

HISTORICAL BACKGROUND

- The Government of India Act, 1935 during British rule created a federal structure. The legislative subjects were distributed between the federal legislature (present day Union) and provinces (present day States). Education was kept under the provincial list.
- After independence, this continued and education was part of the 'State list' under the distribution of powers.
- However, during the Emergency, the Congress party constituted the Swaran Singh Committee to provide recommendations for amendments to the Constitution. One of the recommendations of this committee was **to place 'education' in the concurrent list in order to evolve all-India policies on the subject.** This was implemented through the 42nd constitutional amendment (1976) by shifting 'education' from the State list to the concurrent list.

Arguments for 'education' in the concurrent list:	Arguments for moving 'education' to the state list:
- Uniform education policy. - Improved standards. - Enhanced synergy between Centre and States.	- India's diversity makes a 'one size fits all' policy impractical. - Disparity in expenditure: States bear a larger share of education expenses (85% of total revenue expenditure by education departments in 2020-21). - States' significant expenditure on education justifies their autonomy.

	• Tailor-made policies for syllabus, testing, and admissions can be more effective. • Central institutions can still regulate higher education.

Issues like corruption and lack of professionalism are not resolved by centralisation alone. Problems with NEET and NTA highlight flaws in centralised systems. Hence, let us take a look at many international practices.

INTERNATIONAL PRACTICES

- In the U.S., **State and local governments set the overall educational standards**, mandate standardised tests and supervise colleges and universities. The federal education department's functions primarily include policies for financial aid, focussing on key educational issues and ensuring equal access.

- In Canada, education is **completely managed by the provinces**.

- In Germany, the constitution vests legislative **powers for education with landers (equivalent of States)**.

- In South Africa education is governed by two national departments for school and higher education. The provinces of the country have their own education departments for implementing policies of the national departments and dealing with local issues.

PRELIMS

U-WIN PORTAL

#SOCIAL JUSTICE #HEALTH #SCHEMES#PRELIMS NUGGETS

PRIMARY SOURCE | *The Indian* **EXPRESS**

*With the government planning to launch the **U-Win digital vaccination registry** on August 15, the Universal Immunization Programme (UIP) is set to be significantly strengthened. This portal replicates the Covid-19 vaccine management system, Co-WIN.*

U-WIN

ABOUT U-WIN PORTAL

- It aims to maintain an **electronic registry of routine immunisations**.

- Also aims to **reduce zero-dose and left-out children through a name-based tracking mechanism** and empower citizens with anytime, anywhere access to vaccination services, particularly benefiting migratory populations.

HOW DOES U-WIN WORK

- All children are registered at birth with their parents' ID.
- Three vaccines given to infants at birth get recorded.
- A due-list of children who are scheduled to receive a vaccine dose can be generated by healthcare workers for their respective areas.
- The e-record helps children get vaccinated in different places without carrying a booklet. The portal also sends SMS alerts to parents.
- The portal also records a newborn's birth weight and whether they have physical deformity. This can be used by other government programmes.

TARGET POPULATION AND COVERAGE

- Captures every vaccination event for pregnant women and children aged 0-6 years under the Universal Immunization Programme (UIP).

- Targets 2.9 crore pregnant women and 2.6 crore infants (0-1 years) annually.

- Provides 11 vaccines against 12 vaccine-preventable diseases such as diphtheria, measles, rubella, and tetanus.
- Conducts more than 1.2 crore vaccination sessions across the country annually.
- Vaccination is free of cost at all Government **Vaccination Centers.**

FEATURES OF U-WIN PORTAL

- The platform **generates a uniform QR-based**, digitally verifiable e-vaccination certificate, similar to Covid vaccination certificate, **which can be accessed anytime by the citizens** through a single click. It will enable the digitisation of session planning, and updating vaccination status on a real-time basis.
  o Vaccination records under UIP are being maintained manually as of now. So this will do away with the hassle of keeping a physical record.
- Records **pregnancy details and outcomes, newborn registration, and immunisation at birth.**
- Citizens can self-register for vaccinations via the U-WIN web portal or its Android mobile application. Allows selection of preferred vaccination centres and scheduling of appointments.
- **Facilitates on-spot registration** during ongoing vaccination sessions.
- **Up to 10 people** can be registered for vaccination using the same mobile number.
- Sends automated SMS alerts for registration confirmations, administered doses, and upcoming dose reminders, ensuring timely and age-appropriate vaccinations.
- Facilitates the creation of Ayushman Bharat Health Account (ABHA) IDs for comprehensive health record maintenance.

NITI AAYOG'S SDG INDIA INDEX

#SOCIAL JUSTICE #REPORT & INDEX #PRELIMS NUGGETS

PRIMARY SOURCE | The Indian EXPRESS

*According to the **NITI Aayog's 4th edition of Sustainable Development Goals (SDGs) India Index** 2023-24, India's*

*overall Sustainable Development Goal (SDG) score increased to **71 in 2023-24, compared to 66 in 2020-21.***

ABOUT SDG INDIA INDEX

- The SDG India Index, which evaluates progress made across **16 goals on a scale of 1 to 100**, and if a State/UT achieves a score of 100, it signifies it has achieved the targets. The higher the score of a State/UT, the greater the distance covered to the target.
- Assesses sustainable development across states on the basis of the United Nations' Sustainable Development Goals (SDG).
- The latest SDG India Index, now in its **fourth edition** since its inception in 2018, **uses 113 indicators to evaluate the performance of each state** aligned to the Ministry of Statistics and Programme Implementation's (MoSPI) National Indicator Framework (NIF).

KEY FINDING OF THE REPORT
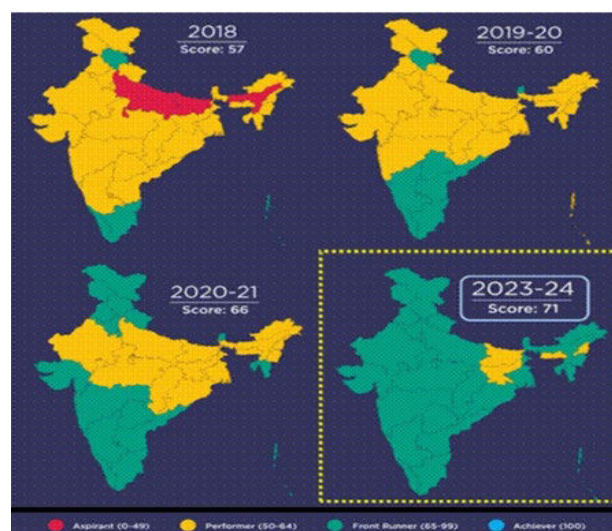
- Overall SDG score for the country is 71 for 2023-24, significant improvement from 66 in 2020-21 and 57 in 2018.
- **Kerala and Uttarakhand as the best performing states** with a score of 79 points each followed by Tamil Nadu, Goa and Himachal Pradesh , while Bihar emerged as a laggard with 57 points, followed by Jharkhand at 62 points. While Chandigarh took the top spot among Union Territories.

- **Significant progress in Goals 1** (No Poverty), 8 (Decent Work and Economic Growth), 13 (Climate Action) and 15 (Life on Land)
- **Goal 13** (Climate Action) records highest increase in score from 54 in 2020-21 to 67 in 2023-24 followed by Goal 1 (No Poverty) from 60 to 72
- While goals like **"Gender Equality" (Goal 5)** and **"Peace, Justice, and Strong Institution" (Goal 16)** saw the smallest increase in points.

SDG GOAL-WISE PERFORMANCE (INDIA)

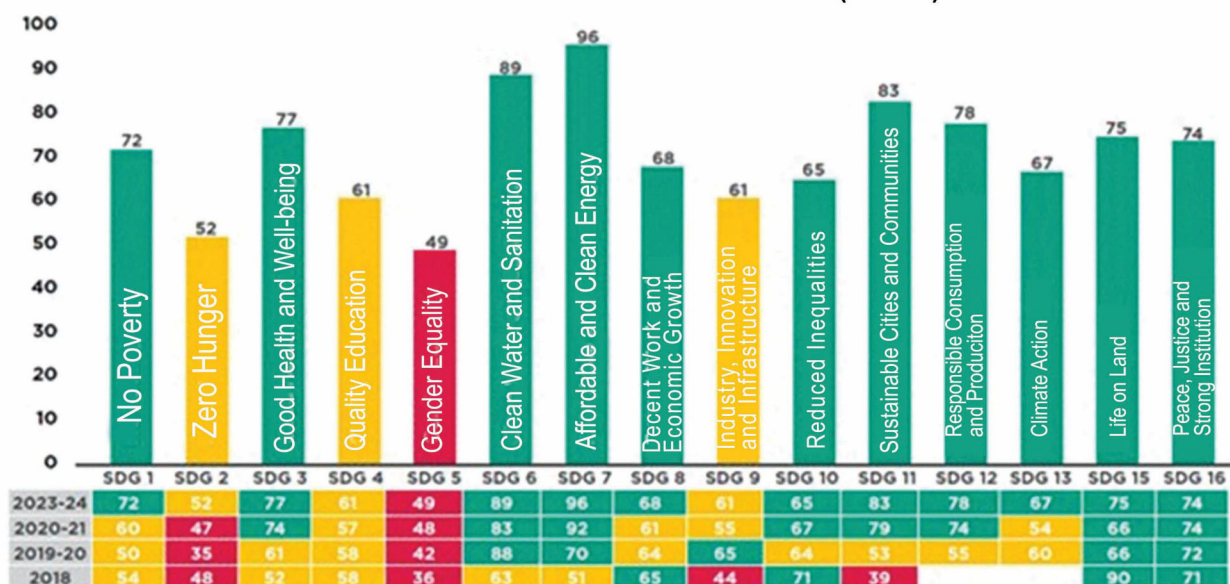|	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 15	SDG 16
2023-24	72	52	77	61	49	89	96	68	61	65	83	78	67	75	74
2020-21	60	47	74	57	48	83	92	61	55	67	79	74	54	66	74
2019-20	50	35	61	58	42	88	70	64	65	64	53	55	60	66	72
2018	54	48	52	58	36	63	51	65	44	71	39			90	71

● Aspirant (0-49)   ● Performer (50-64)   ● Front Runner (65-99)   ● Achiever (100)

- Gender Equality goal received the lowest score of 49 points among all goals, recording a marginal increase of 1 point from 2020-21.
- **"Reduced Inequalities" (Goal 10)** was the only goal to record a reduction in points to 65 in 2022-23 from 67 in 2020-21.

NATIONAL RESEARCH FOUNDATION

#SOCIAL JUSTICE #EDUCATION

PRIMARY SOURCE THE HINDU

*The executive and governing boards of the **Anusandhan National Research Foundation (ANRF)**, a high-level body conceived to give strategic direction to scientific research in India has no representation from Indian industry.*

ABOUT NATIONAL RESEARCH FOUNDATION (NRF)

- It is an apex body **to provide high-level strategic direction of scientific research** in the country as per recommendations of the National Education Policy (NEP).
- The **Department of Science and Technology (DST)** is the administrative Department of NRF which will be **governed by a Governing Board consisting of eminent researchers and professionals across disciplines.**
- The **Prime Minister will be the ex-officio President** of the **Governing** Board and the **Union Minister of Science & Technology & Union Minister of Education will be the ex-officio Vice-Presidents**.

- NRF's functioning will be **governed by an Executive Council chaired by the Principal Scientific Adviser to the Government of India.**

MISSION AND VISION

- The NRF is entrusted with the mission of catalysing the transformation of Indian institutions into world-class Centers of Excellence (CoEs).
- Its vision is to provide high-level strategic direction for research, innovation, and entrepreneurship across a wide spectrum of fields, including natural sciences, engineering and technology, environmental and earth sciences, health and agriculture, and the interfaces of humanities and social sciences with science and technology.

FUNCTIONS AND RESPONSIBILITIES

- **Formulating Comprehensive Roadmaps:** The NRF is responsible for developing comprehensive research and development roadmaps that guide India's scientific and technological progress.
- **Fostering R&D Infrastructure:** It actively works towards facilitating and financing the growth of research and development infrastructure in universities, colleges, and research institutions.
- **Grant Provision:**
  - The NRF plays a crucial role in providing grants for research proposals, enabling scientists and researchers to undertake innovative projects.
  - Funding competitive peer-reviewed grant proposals to eligible persons.
- **International Collaboration:**
  - Evolving participation in international collaborative projects and fostering exchange of scientific information.
  - Encouraging collaboration with scientists from within and outside India, including scientists of Indian origin, with a view to enrich the Indian scientific ecosystem.
- **Coordination at National Level:** Evolving nationally coordinated programmes to identify scientific and practical solutions for societal, developmental, financial and techno-economic challenges.
- **Public and Private Investment:** The NRF aims to foster investments from both the public and private sectors, further boosting the growth of India's research ecosystem.
- **Translation of Research:** Supporting translation of research undertaken into capital intensive technologies.
- **Global Participation:** Increasing India's role and participation in key areas of national and global importance.

PRACTICE QUESTIONS

MCQS

Q1. With reference to the Sustainable Development Goals (SDGs) India Index, consider the following statements:

1. The index released by the Ministry of Rural Development to assesses sustainable development across states
2. Gujarat is the best performing state in this index.
3. Gender Equality (Goal 5) has recorded the highest increase in score in the latest index.

How many of the statements given above is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Q2. With reference to the U-Win portal, consider the following statements:

1. It is designed to digitise the Universal Immunisation Programme (UIP).
2. Self-registration is mandatory for the routine vaccination on this portal.
3. Only 4 people can register for vaccination on this portal using the same mobile number.

Which of the statements given above is/are correct?

(a)   1 only

(b)   2 and 3 only

(c)   3 only

(d)   1, 2 and 3

Q3.   With reference to the National Research Foundation (NRF), consider the following statements:

1.   It is established as per the recommendation of the National Education Policy (NEP), to provide high-level strategic direction of scientific research in the country.

2.   The Department of Higher Education is the administrative Department of NRF.

3.   The Prime Minister is the ex-officio President of the Governing Board of NRF.

How many of the above statements is/are correct?

(a)   Only one

(b)   Only two

(c)   All three

(d)   None

Q4.   With reference to the adoption of children in India, consider the following statement:

1.   All child adoptions are authorised by the district magistrate at district level.

2.   Central Adoption Resource Authority is nodal agency for intra-country adoption.

3.   Married couples cannot adopt two children of same gender.

Which of the statements given above are correct?

(a)   1 and 2 only

(b)   2 and 3 only

(c)   1 and 3 only

(d)   1, 2 and 3

Q5.   With respect to "Socio-Economic Caste Census (SECC) 2011",Consider the following statements:

1.   It was first caste-based census since 1931.

2.   It was conducted by the Union Ministry of Home Affairs.

Which of the statements given above is/are correct?

(a)   1 only

(b)   2 only

(c)   Both 1 and 2

(d)   Neither 1 nor 2

DESCRIPTIVE QUESTIONS

Q1.   As India's cities continue to expand at an unprecedented rate, the nation faces a complex web of challenges." Analyse these challenges and propose a comprehensive roadmap to manage urbanization sustainably.

Q2.   With the growing demand for a caste census in India, critically analyze the potential advantages and disadvantages of conducting such a census. Also, suggest a balanced approach that could guide the implementation of a caste census or survey in India.

Answers: *1-d, 2-a, 3-a, 4-a, 5-d*

GEOGRAPHY, ENVIRONMENT, BIODIVERSITY & DISASTER MANAGEMENT

GS PAPER (PRELIMS) AND GS PAPER I & III (MAIN)

HEAT DOME

#CLIMATOLOGY
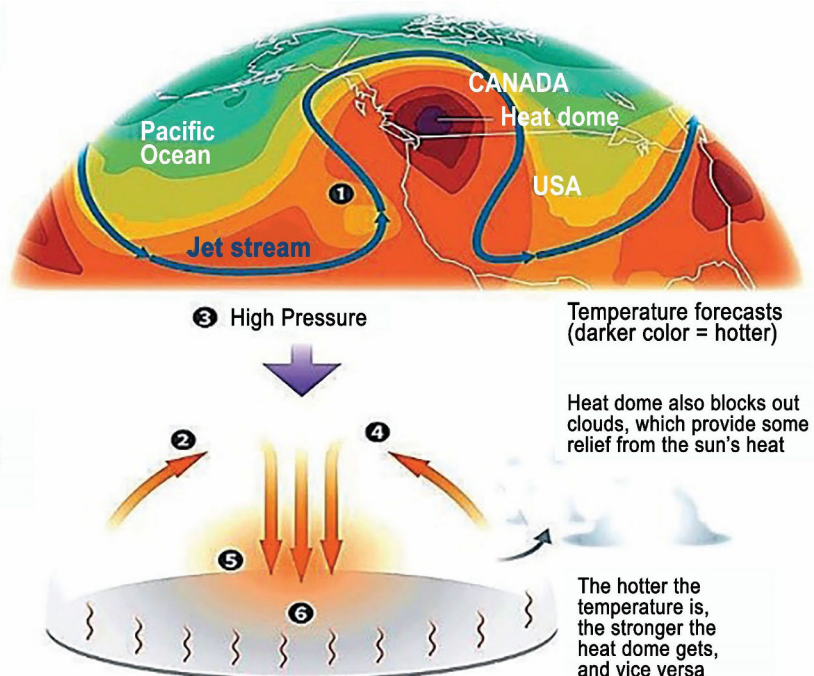
PRIMARY SOURCE | The Indian EXPRESS

The entire western United States has come under the grip of a sweltering heatwave, which began last week. Nearly 75 million people are under heat alerts, and temperature records are tumbling.

WHAT IS A HEAT DOME?

The 'heat dome'
Occurs when the atmosphere traps hot ocean air like a lid or cap

1. In summer, the jet stream (which moves the air shifts northward)

2. Hot and stagnant air expands upwards

3. Strong and high-pressure atmospheric conditions combine with influences from La Nina act like a dome or cap

4. In a process known as convection, hot air attempts to escape but high pressure pushes it back down

5. Under the dome, the air sinks and compresses, releasing more heat

6. As winds move the hot air east, the jet stream traps the air where it sinks, resulting in heat waves

CANADA
Heat dome
Pacific Ocean
Jet stream
USA

❸ High Pressure

Temperature forecasts (darker color = hotter)

Heat dome also blocks out clouds, which provide some relief from the sun's heat

The hotter the temperature is, the stronger the heat dome gets, and vice versa

- A weather phenomenon characterized by a high-pressure system in the atmosphere trapping warm air like a lid on a pot.

- The warm air is unable to rise vertically, resulting in clear skies and minimal cloud formation.

- High-pressure systems enhance sunlight reaching the Earth's surface, intensifying warming and drying of the soil.

- Reduced evaporation under heat domes inhibits the formation of rain clouds, prolonging dry and hot conditions.

- Prolonged presence of a heat dome leads to increasing temperatures over time, exacerbating heatwave conditions.

ROLE OF JET STREAM

- The jet stream is a fast-moving air current high in the atmosphere that influences the movement of weather systems.
- Its wave-like pattern usually moves weather systems along the Earth's surface from north to south.
- When these waves become elongated or stationary, they can cause high-pressure systems to become trapped in place.
- Stationary jet stream waves contribute to the formation and persistence of heat domes over specific regions.

IMPACT OF CLIMATE CHANGE ON HEAT DOMES

- Scientists are studying how climate change affects the frequency and intensity of blocking weather patterns that lead to heat domes.
- Rising global temperatures have been observed to amplify the size and strength of heat domes.
- A 2021 study by World Weather Attribution linked extreme temperatures during a Canadian heat dome to human-caused climate change, suggesting such events would be nearly impossible without its influence.
- Research published in Nature in 2023 indicates that heat dome intensification is occurring at a rate faster than the overall global warming trend, indicating a feedback loop where climate change amplifies its own effects through increased heat dome intensity.

CONCLUSION

- Heat domes are intensified by stationary high-pressure systems that trap warm air, leading to prolonged heatwaves and dry conditions.
- The behaviour of the jet stream plays a crucial role in the formation and duration of heat domes by influencing atmospheric circulation patterns.
- Climate change exacerbates heat dome intensity, making extreme heat events more frequent and severe, with significant implications for regional climate patterns and human health.

LA NINA MAY EMERGE AFTER AUGUST

#CLIMATOLOGY

PRIMARY SOURCE | BusinessLine

Cooling slows down. Four weather models predict neutral ENSO levels in September but three points to possibility of La Nina.

LA NINA
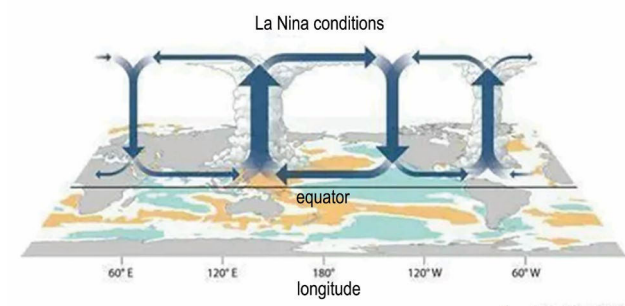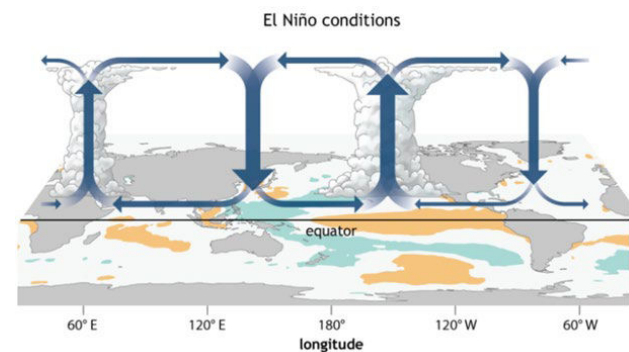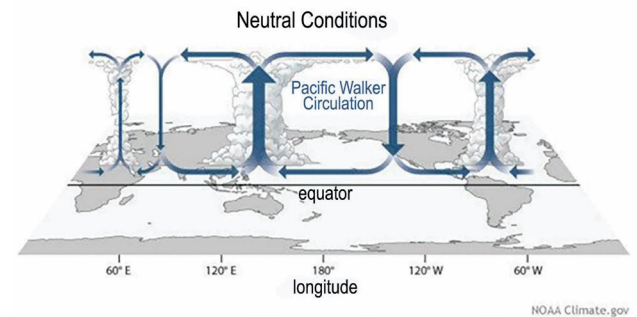
LA NIÑA

- La Niña basically refers to an abnormal cooling of the central and eastern Pacific Ocean waters off the coasts of Ecuador and Peru.
- Such cooling (sea surface temperatures i.e. SSTs falling) is a result of strong trade winds blowing west along the equator, taking warm water from South America towards Asia.
- The warming of the western equatorial Pacific, then, leads to increased evaporation and concentrated

cloud-formation activity around that region, whose effects may spread to India as well.

IMPACT OF LA NINA

- **Weather and Climate:**
  - **Australia:** During La Niña, Australia typically experiences wetter than average conditions, leading to increased rainfall and sometimes flooding in parts of the country. For instance, the 2010-2012 La Niña event brought extensive flooding in eastern Australia, causing significant damage to infrastructure and agriculture.
  - **North America:** La Niña often results in a more active winter storm track across the northern United States and Canada, leading to increased snowfall and colder temperatures. Conversely, the southern United States tends to experience warmer and drier conditions, which can exacerbate droughts in already arid regions like the southwestern states.
- **Agriculture:**
  - **South America:** La Niña can bring variable impacts to different parts of South America. In countries like Argentina and Brazil, it can lead to wetter conditions in some regions, benefiting agriculture with increased crop yields. However, in other areas such as parts of Bolivia and Paraguay, drought conditions may prevail, negatively impacting crop production.
  - **Southeast Asia:** Countries **like India, Indonesia and the Philippines** may experience increased rainfall during La Niña events, affecting rice production and potentially causing flooding and landslides in vulnerable areas.
- **Economic Impact:**
  - **Energy Sector:** La Niña can influence energy markets globally. For instance, in regions where La Niña results in increased hurricane activity, such as the Gulf of Mexico and the Caribbean, disruptions to oil and gas production can occur, leading to fluctuations in energy prices.
  - **Commodities:** Agricultural commodities such as grains (corn, soybeans) and soft commodities (coffee, cocoa) can see price volatility due to changes in production caused by La Niña-induced weather patterns.
- **Social and Environmental Consequences:**

  - **Pacific Islands:** Small island nations in the Pacific can be particularly vulnerable to the impacts of La Niña, including increased storm surges, coastal erosion, and damage to infrastructure due to intensified tropical cyclones.
  - **Africa:** La Niña's influence on weather patterns in Africa varies, but it can lead to disruptions in rainfall patterns affecting agriculture and water resources, particularly in regions already prone to droughts.
- **Ecological Effects:**
  - **Marine Ecosystems:** La Niña alters ocean temperatures and currents, affecting marine life distribution and productivity. For example, changes in sea surface temperatures can impact coral reefs and fisheries, leading to shifts in fish populations and affecting livelihoods dependent on marine resources.
- **Health Implications:**
  - **Vector-Borne Diseases:** La Niña can influence the spread of vector-borne diseases such as malaria and dengue fever. Increased rainfall can create breeding grounds for mosquitoes, potentially leading to outbreaks in affected regions.

NATIONAL GREEN HYDROGEN MISSION

#SUSTAINABLE DEVELOPMENT

PRIMARY SOURCE | **BusinessLine**

The Ministry of New & Renewable Energy (MNRE) said that it has developed guidelines for funding of testing facilities, infrastructure and institutional support for the development of standards and regulatory frameworks under the National Green Hydrogen Mission.

NATIONAL GREEN HYDROGEN MISSION

- The Union Cabinet has approved the National Green Hydrogen Mission. The initial outlay for the Mission will be Rs.19,744 crore, including an outlay of Rs.17,490 crore for the SIGHT program, Rs.1,466 crore for pilot projects, Rs.400 crore for R&D, and Rs. 388 crores towards other Mission components.
- MNRE will formulate the scheme guidelines for implementation of the respective components.

THE MISSION WILL RESULT IN THE FOLLOWING LIKELY OUTCOMES BY 2030

- Development of green hydrogen production capacity of at least 5 MMT (Million Metric Tons) per annum with an associated renewable energy capacity addition of about 125 GW in the country

- Over Rs. Eight lakh crores in total investments

- Creation of over Six lakh jobs

- Cumulative reduction in fossil fuel imports over Rs. One lakh crore

- Abatement of nearly 50 MMT of annual greenhouse gas emissions

- The Mission will facilitate demand creation, production, utilization and export of Green Hydrogen.

- Under the **Strategic Interventions for Green Hydrogen Transition Program (SIGHT)**, two distinct financial incentive mechanisms – targeting domestic manufacturing of electrolysers and production of Green Hydrogen – will be provided under the Mission.

- The Mission will also support pilot projects in emerging end-use sectors and production pathways.

- Regions capable of supporting large scale production and/or utilization of Hydrogen will be identified and developed as Green Hydrogen Hubs.

- A robust Standards and Regulations framework will be also developed.

- Further, a public-private partnership framework for R&D (Strategic Hydrogen Innovation Partnership –SHIP) will be facilitated under the Mission; R&D projects will be goal-oriented, time bound, and suitably scaled up to develop globally competitive technologies.

WHY HYDROGEN?

- A general trend towards development of better fuels is hydrogen-rich fuels.

- This means more of hydrogen in the fuel and less of carbon or more hydrogen to every carbon atom. Eg: Natural gas 4 hydrogen to every carbon as opposed to very little hydrogen in coal.

- This is because just like carbon, hydrogen is also combustible, i.e. it mixes with oxygen in the air and gives heat.

- In addition, moving from a solid to a liquid and then finally to a gaseous state energy carrier.

NATURE OF HYDROGEN

Hydrogen as an energy carrier

- It is important to understand that all fuels we have seen so far are energy carriers.

- Hydrogen is the best energy carrier as there are no harmful impact (read carbon emissions)

- This is because hydrogen is not freely available on earth, but it is in abundance in the form of in water and hydrocarbons.

- However, to extract hydrogen from water or hydrocarbons you need to expend energy and the energy spent in extracting hydrogen is much more than the amount of energy the so-extracted hydrogen

gives out. This is why hydrogen is energy carrier and not an energy source. (in fact all fuels we have seen are energy carriers)

Combustible nature

- Hydrogen is highly combustible i.e. it mixes readily with oxygen to produce heat.

High energy density per gram

- Further the amount of energy out of this process is about 3 times higher than that you get when you burn petrol. (26 Kcal/gm for hydrogen compared to 10 Kcal/gm for gasoline).

Extremely low density per volume

- However, the problem with hydrogen is that it has low density, meaning the amount of hydrogen mass you can hold in 1 litre is about 71 grams.

- That means the tank size at normal temperature and pressure to hold hydrogen is very big.

- In other words, though the fuel itself is lightweight the tank size and therefore the weight of the tank goes higher.

- This puts a limitation on hydrogen being used as a fuel in private transport.

- Thus, hydrogen is suitable for large vehicles like buses which requires a limited range but can hold a large tank.

- This requires hydrogen to compressed at high pressure. Alternately you can liquify hydrogen by compressing and taking away heat.

How to Make?
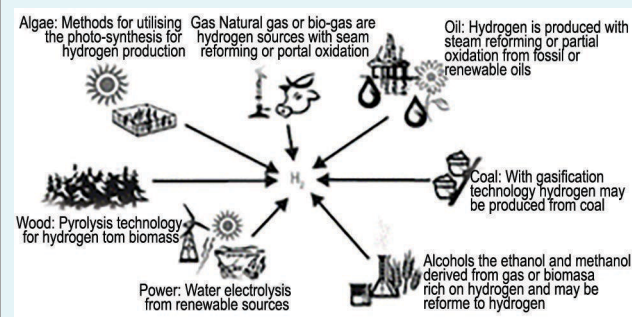
- You can't mine hydrogen. There is virtually no hydrogen gas (or liquid) in the environment.

- But there's lots of hydrogen in water and in fossil fuels (hydrocarbons)-but not "free" hydrogen, the molecule H2.

- That's what we want for the hydrogen economy.

- Two major sources of hydrogen on earth are water and hydrocarbons

- From hydrocarbons

- Take any hydrocarbon and treat it with steam we get Syngas which is a source of hydrogen.

- Any hydrocarbon+H2Oà CO+H2

- Hydrocarbon could be either fossil or biofuel or even organic waste.

- However, hydrocarbon source of hydrogen is again a problem because the left-over carbon has to go to atmosphere.

- This makes it dirty. That's why hydrogen from these sources is colour coded with 'dirty' colours like grey, blue, black etc.

HIGH SEA TREATY

#ENVIRONMENT AND ECOLOGY

India has decided to sign and ratify the High Seas Treaty, a global agreement for conservation and protection of biodiversity in the oceans.

HIGH SEA TREATY

The United Nations has recently adopted the Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) or the High Seas Treaty. This historic agreement, the third to be approved under UNCLOS, aims to protect and preserve the marine environment through international cooperation. The process to develop this treaty began in 2002, and after several years of negotiations, it was finally adopted in 2023.

KEY POINTS OF THE HIGH SEA TREATY

- **Protecting Marine Biodiversity:** The treaty addresses pressing issues such as rising sea surface temperatures, overexploitation of marine biodiversity, overfishing, coastal pollution, and unsustainable practices beyond national jurisdictions.

- **Establishment of Marine Protected Areas**: The treaty introduces the establishment of marine protected areas through a "three-quarterly majority vote," ensuring that decisions cannot be blocked by a small number of parties.

- **Fair Sharing of Benefits:** The treaty mandates the fair sharing of benefits from marine genetic resources. It includes a "clear house mechanism" to facilitate the sharing of scientific information and monetary benefits among all parties.

- **Open Access to Information:** Parties to the treaty are required to share and exchange information on marine protected areas, scientific and technical tools, and area-based management tools. This promotes open access to knowledge and collaboration.

- **Scientific and Technical Body**: A Scientific and Technical Body will play a crucial role in conducting environmental impact assessments, creating standards and guidelines, and assisting countries with limited capacity.

ABOUT HIGH SEAS

- High seas are open ocean areas that are outside the jurisdiction of any country — the reason why the treaty is commonly known as **the agreement on "biodiversity beyond national jurisdictions (BBNJ)".**

- **According to the Deep Ocean Stewardship Initiative (DOSI),** a network of global experts on oceans, high seas comprise 64 per cent of the ocean surface, and about 43 per cent of the Earth.

OTHER LEGAL FRAMEWORK TO GOVERN THE ACTIVITIES IN THE OCEANS

- **United Nations Convention on the Laws of the Sea (UNCLOS) a 1982 agreement** defined the rights and duties of countries in the oceans, the extent of ocean areas over which countries could claim sovereignty, and the legal status of marine resources.

- It also **specified a set of general rules** for a range of activities in the oceans including **navigation, scientific research, and deep-sea mining**.

STUDY OF RESERVOIR INDUCED SEISMICITY

#INDIAN GEOGRAPHY #GEOMORPHOLOGY

PRIMARY SOURCE | THE HINDU

The Borehole Geophysics Research Laboratory (BGRL) in Karad, Maharashtra, is a specialised institute mandated to execute India's scientific deep-drilling programme. Under BGRL, the aim is to drill the earth's crust and conduct scientific observations to help expand our understanding of reservoir-triggered earthquakes in the Koyna-Warna region

PURPOSE OF DEEP DRILLING IN MAHARASHTRA

- **Location:** Koyna-Warna region, Maharashtra

- **Institute:** Borehole Geophysics Research Laboratory (BGRL), Karad, under Ministry of Earth Sciences (MoES)

OBJECTIVES

- Conduct scientific deep drilling to a depth of 6 km in the earth's crust.

- Study reservoir-triggered earthquakes in the Koyna-Warna region.

SCIENTIFIC DEEP DRILLING OVERVIEW

- **Definition:** Strategically digging boreholes to analyse deeper parts of the earth's crust.

- **Benefits:** Provides insights into earthquakes, earth's history, rock types, energy resources, climate change patterns, etc.

Scientific Deep Drilling:

- Considered the most effective method to study the Earth's interior.

- Provides direct, in situ measurements from deep within the Earth.

- Allows retrieval of rock and sediment cores that align with Earth's geological timeline.

OTHER METHODS OF STUDY

- **Geophysical Measurements**:
  - Seismic wave speed: Provides insights into the structure and composition of Earth's interior.
  - Gravitational and magnetic fields: Indicate variations in density and magnetic properties.
  - Electrical conductivity: Reflects the presence of fluids and minerals.

CHALLENGES OF SCIENTIFIC DEEP DRILLING

- **Technical Challenges**:
  - Operates in a hot, dark, high-pressure environment.
  - Requires advanced drilling technology and equipment.

- **Logistical Challenges**:
  - Labor-intensive and capital-intensive.

KEY FINDINGS FROM THE PILOT DRILLING MISSION AT KOYNA

- **Subsurface Geological Environment:**

o Discovered 1.2-km thick Deccan trap lava flows dating back 65 million years.

o Revealed granitic basement rocks aged between 2,500 to 2,700 million years below the lava flows.

- **Downhole Measurements and Core Analysis:**
  o Conducted measurements and extracted core samples from a depth of 3 km.
  o Provided new insights into:
    ▪ Physical and mechanical properties of rocks.
    ▪ Chemical and isotopic composition of formation fluids and gases.
    ▪ Temperature and stress regimes.
    ▪ Fracture orientations.

- **High-Resolution Imaging Techniques:**
  o Used acoustic and micro-resistivity methods to capture detailed images of the borehole wall.
  o Validated data extracted from cores, enhancing reliability for global comparisons.

- **Hydraulic Fracturing Experiments:**
  o Conducted experiments to directly measure stress regimes in the rocks.
  o Data expected to contribute significantly to understanding seismic activity in the region.

- **Detection and Study of Fault Zones:**
  o Integrated various datasets to detect buried fault zones and study their properties.

- **Presence of Water and Stress Conditions:**
  o Discovered water presence down to 3 km depth, identified as meteoric or rain-fed.
  o Suggests deep percolation and circulation mechanisms.
  o Found that the Koyna region is critically stressed, indicating susceptibility to small stress perturbations that could trigger frequent, small-magnitude earthquakes.

FUTURE IMPLICATIONS AND UTILIZATION OF KOYNA PILOT DATA

- **Temperature Modelling and Equipment Design:**
  o Predicted temperature at 6 km depth: 110-130 degrees C.
  o Future drilling equipment and downhole data acquisition systems need to be designed to withstand these conditions.

- **Facilitation of New Experiments:**
  o Koyna data and samples will facilitate numerous new experiments.
  o Over 20 research groups across India are currently studying Koyna samples.

- **Research Areas and Studies:**
  o **Fault Zone Gouge Analysis:**
    ▪ Studying gouge from fault zones to understand frictional properties in quake-prone regions.
  o **Microbial Characterization:**
    ▪ Characterizing microbes on rocks to understand life forms in hot, dark, nutrient-poor environments.
    ▪ Potential for discovering new molecules and improving industrial processes.

- **International Collaboration:**
  o International geological research community seeking access to core samples.
  o Projects include emerging fields like carbon capture and storage in the deep Deccan traps.

- **Impact of Koyna Exercise:**
  o Establishing India's presence and capability in scientific deep drilling.
  o Lessons learned will inform and shape future deep-drilling endeavours.
  o Expanding academic knowledge across various disciplines.

EARTHQUAKE, ANY SUDDEN SHAKING OF THE GROUND CAUSED BY THE PASSAGE OF SEISMIC WAVES THROUGH EARTH'S ROCKS.

Causes of earthquake

Major causes of earthquake are natural and occur mostly around the plate boundaries due to continuous interaction of plates.

Natural causes

1.Tectonics: tectonic movements associated with plate boundaries are ruptures and faults along the constructive plate boundaries, folding and faulting along the destructive plate boundaries, this sort of disequilibrium caused due to different types of plate movement and consequently earthquakes of varying degree are caused.

2.Volcanic: Explosive violent gases during process of vulcanicity try to escape upwards and hence they push the crustal surface from below with great force and thus is caused severe earth tremor of high magnitude. Example-Krakatoa volcano of Indonesia caused intense earthquakes.

Anthropogenic causes

Earthquakes are induced by human activities causes earth tremors of serious consequences.

- **Fracking:** Injection of fluids into deep wells (**Fracking**)- can lubricate existing faults and crack rocks, triggering earthquakes.

- **Underground nuclear explosions:** Detonation of large **underground nuclear explosions**-will accentuate the fault lines leads to earthquakes. **Case study**– North Korea's 2017 nuclear bomb test set off aftershocks that lasted for about eight months after the explosion. The bomb was set off near a previously unmapped fault line, and a first produced a 6.3 earthquake, followed by a magnitude 4 quake just minutes later.

- **Mining**: rocks and other materials are being removed from the Earth that instability in the ground is occurring, which is triggering earthquakes.

- **Reservoir induced earthquake:** Earthquake triggered by the impoundment of water behind the dam of enormous quantity causes isostatic disequilibrium of already adjusted rocks or further augment the already isostatically adjusted rocks below the reservoir or further augment the already fragile structures due to faults and fractures underneath. Examples **Koyna dam** in India, **Hoover dam** in USA.

KUKRAIL RESERVE FOREST

#PRELIMSNUGGETS #ENVIRONMENT AND ECOLOGY

PRIMARY SOURCE | THE HINDU

Adityanath allays razing fears of families living in 'marked' houses on Kukrail floodplain.

LOCATION AND HISTORY

- **Established**: Planted in the 1950s as an urban plantation forest near Kukrail Pul, Lucknow, Uttar Pradesh, India.

- **Purpose**: Originally intended as the city's green lungs and a picnic spot.

FLORA

- **Species**: Teak, peltophorum, acacia, prosopis juliflora, mango, eucalyptus, holoptelea integrifolia, Dates, Ficus infectoria, peepal, neem, and various other plant species.

- **Nurseries**: Includes herbal, medicinal, and sapling nurseries; provides saplings for afforestation across the state.

FAUNA

- **Birds**: Over 200 species, including local and migrant birds; best bird watching season from March to April.

CONSERVATION EFFORTS

- **Gharial Conservation**:
  - **Initiative**: Started in 1978 due to dwindling gharial population.
  - **Facility**: Kukrail Gharial Rehabilitation Centre, known for successful captive breeding.
  - **Impact**: Released over 5,410 gharial juveniles into various rivers, aiding in species recovery in Uttar Pradesh, Madhya Pradesh, Rajasthan, and beyond.
  - **Collaboration**: Managed by Uttar Pradesh Forest Department in partnership with the Ministry of Environment and Forests, India.

RESEARCH AND CONSERVATION ACTIVITIES

- **Gharial Breeding Program**:
  - **Breeding Stock**: Includes 4 resident females and 2 resident males.
  - **Egg Collection**: Eggs collected from rivers like Ramganga, Suheli, Girwa, and Chambal; artificial hatching and rearing of young crocodiles.
  - **Release**: Young gharials released into rivers such as Chambal, Sharda, Ghaghra, Girwa, Ramganga, and Ganges.

- **Scientific Research**:
  - **Tagging**: Juveniles tagged with color-coded and VHF radio tags for monitoring.
  - **Biologging**: Studies on underwater behavior using lightweight cameras attached to gharials, collecting data on diving depths, swimming speeds, etc.

MUGGER REHABILITATION AND TURTLE CONSERVATION

- **Mugger Rehabilitation**: Rescued crocodiles treated and rehabilitated before release back into rivers.
- **Turtle Conservation**: Collaboration with Turtle Survival Alliance under the Ganga Action Plan, focusing on endangered softshell turtles.

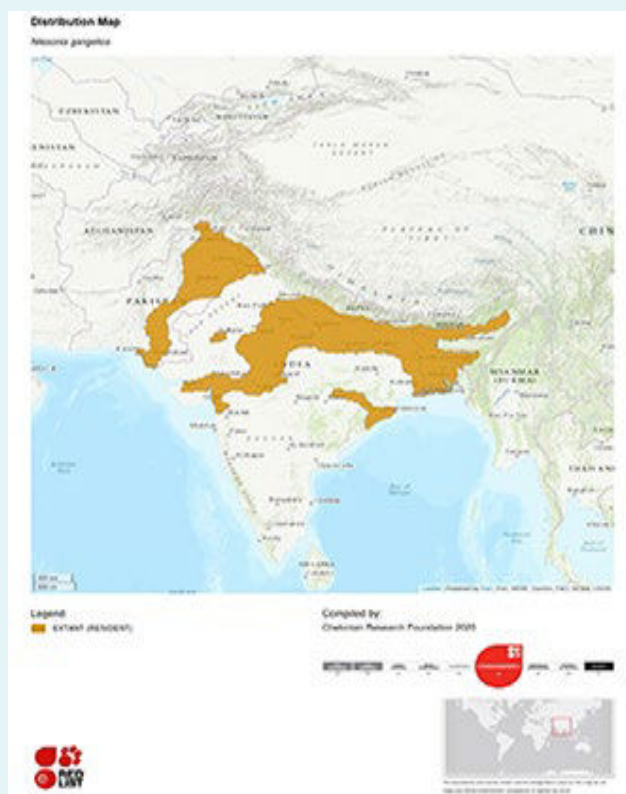## ➜ INDIAN SOFTSHELL TURTLE

CONSERVATION STATUS

IUCN: Endangered

IWPA: Schedule I (Part II)

CITES : Appendix I

U.S ESA : Not listed

Distribution:

Indian softshell turtle's distribution is restricted to the Ganges, Indus, and Mahanadi River systems in Northen India, Pakistan, Bangladesh, and Southern Nepal.

CHARACTERISTICS, HABITAT, AND BEHAVIOUR

- **Appearance:**
  - Indian softshell turtle has a prominent, tube-like snout and an incredibly flattened shell.
  - Shell (carapace) is smooth, round to oval, olive or green in colour with a yellow border.
  - Limbs are green, underside of the shell is grey to cream.
  - Broad head with black stripes running from the centre towards the sides.
- **Adaptations:**
  - Long neck and snorkel-like snout allow it to extend its nose out of water to breathe.
  - Compressed shell facilitates streamlined swimming, making it a fast swimmer.
- **Habitat:**
  - Inhabits deep rivers, streams, large canals, lakes, and ponds with mud and sand bottoms.
  - Prefers turbid water conditions.
- **Behaviour:**
  - Omnivorous diet includes mollusks, insects, fish, amphibians, waterfowl, carrion, and aquatic plants.

MAJOR THREATS

- **Habitat Loss:**
  - Pollution of water bodies.
  - Closure of canals.
  - Introduction of dams and tidal barrages.
  - Channelization of rivers.
  - Drainage of floodplains.
- **Commercial Exploitation:**
  - Professional fishing.
  - Meat consumption.
- **Reduction of Fish Stock:**
  - Overfishing leading to depletion of prey species.

➔ MUGGER

CONSERVATION STATUS

IUCN : Vulnerable

IWPAA : Schedule I

CITES : Appendix I

**U.S. ESA :** Not listed

SPECIES DISTRIBUTION

- **Countries:** India, Sri Lanka, Pakistan, Nepal, and possibly Bangladesh.
- **Westward Range Extension:** Extends into eastern Iran.

POPULATION STATUS

- **Local Extinction:**
  - Extensive across its historical range.
  - Viable populations now confined to Protected Areas.

MAJOR POPULATIONS

- **India:**
  - Present in 15 states.
  - Significant populations in:
    - Middle Ganga region (Bihar and Jharkhand).
    - Chambal River basin (Rajasthan and Madhya Pradesh).
    - Gujarat.

Distribution Map
Crocodylus palustris
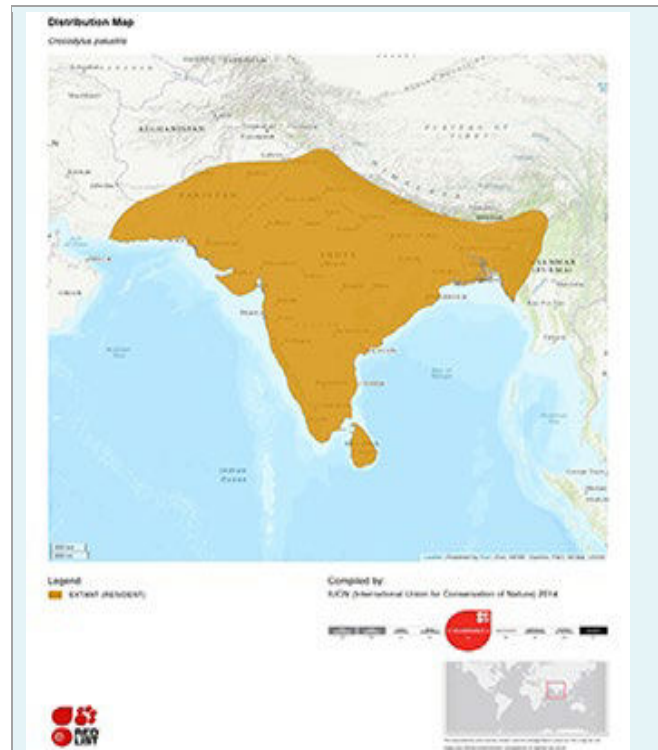
CHARACTERISTICS, HABITAT, AND BEHAVIOR

- **Size and Appearance:**
  - Mugger crocodiles are medium to large, with adult males reaching up to 4.5 meters (18 ft) in length and weighing about 450 kg (1000 lbs).
  - They resemble alligators the most among all crocodile species.
  - Juveniles are light tan with black cross-banding, while adults are generally grey to brown.
- **Reproduction and Nesting:**
  - Mugger crocodiles are hole-nesting species.
  - Females reach sexual maturity at approximately 1.8-2 meters.
  - They lay 25-30 eggs during the annual dry season.
  - Nests are found in various habitats, including inside their burrows.
  - In captivity, some females can lay two clutches in a single year, though this is not observed in the wild.
  - Incubation period ranges from 55 to 75 days.
- **Diet and Feeding Habits:**
  - Muggers are opportunistic predators, utilizing a wide range of food resources.

○ They prefer fish but also feed on crustaceans, insects, small fish, amphibians, reptiles (especially snakes and possibly turtles), birds, and mammals (such as monkeys).

○ Large adults have been documented preying on larger animals like deer and buffalo.

MAJOR THREATS

- **Habitat Destruction:**

  ○ Agricultural and industrial expansion leading to loss of natural habitats.

- **Entanglement and Drowning:**

  ○ Accidental entanglement in fishing equipment leading to drowning.

- **Illegal Activities:**

  ○ Egg predation by humans for consumption.

  ○ Illegal poaching for their skin and meat.

  ○ Use of body parts in traditional medicine.

- **Human-Wildlife Conflict:**

  ○ Increasing incidents of conflict due to human encroachment into the natural habitats of mugger crocodiles.

➜ GHARIAL

- **Scientific Name:** Gavialis gangeticus
- **Length:** 3-6 meters (Male), 2.5-4 meters (Female)
- **Weight:** 150-250 kg
- **Population:** Approximately 800
- **Status:** Listed in Schedule I of Wildlife (Protection) Act, 1972 and as **Critically** Endangered on IUCN Red List

CHARACTERISTICS

- Gharial derives its name from "ghara," an Indian word for pot, referring to the bulbous knob (narial excrescence) at the end of **their** snout.

- It is the only visibly sexually dimorphic crocodilian species due to this knob.

- Gharials are largely piscivorous (fish-eating) among all extant crocodilians.

- They possess a strongly attenuated (narrowed) snout, rows of **uniform** sharp teeth, and a relatively long, well-muscled neck, making them efficient fish catchers.

CONSERVATION ISSUES

- **Habitat Alteration:** Dam construction, barrages, and water abstraction convert suitable river habitats into marginal or unsuitable lakes, affecting the quantity and quality of **water** downstream.

- **Entanglement in Fishing Nets:** Gharials, with their long, toothy rostrum, are highly vulnerable to getting trapped underwater in fishing nets, leading to **drowning** or injury. They are often killed or mutilated while trying to disentangle.

- **River Bed Cultivation:** Cultivation on river beds disrupts **gharial** habitat, alienating them from essential terrestrial components and forcing them to migrate or abandon areas.

- **Sand Mining:** Removal of sand from riverbanks destroys gharial **basking** and nesting sites, impacting their behavior and nesting success. Mining activities can directly harm eggs during nesting seasons.

- **Egg Harvesting:** Harvesting of gharial eggs for subsistence food increases egg mortality, reduces recruitment rates, and exposes nests to additional predation by natural predators.

WWF-INDIA'S INITIATIVES

- **Species Recovery Programme: Initiated** after the National Chambal Gharial crisis in December 2007.

- **Reintroduction Programme:** Collaborated with the Uttar Pradesh Forest Department to **reintroduce** gharials at Hastinapur Wildlife Sanctuary. Since 2009, 250 captive-reared gharials from Kukrail Rehabilitation Centre have been released into River Ganga.

- **Research Collaboration:** Partnered with the University of Tokyo, Japan, for Gharial Bio-logging Science to study underwater **behavior** and habitat preferences of free-ranging gharials.

- **Community Engagement:** Worked with local communities along the River Ganga for biodiversity conservation through education, awareness

GEOGRAPHY, ENVIRONMENT, BIODIVERSITY & DISASTER MANAGEMENT

programs, and Village Panchayat Meetings (Ganga Samrakshan Panchayat).

- **Environmental Conservation Efforts:** Focused on maintaining ecological flows (e-flows), reducing **impacts** of illegal sand mining, pollution control, and addressing issues related to riverbed farming within the Upper Ganga Basin

PROJECT CHEETAH: EXPANSION TO BANNI, GUJARAT

#ENVIRONMENT AND ECOLOGY

PRIMARY SOURCE | THE HINDU

While the Gandhi Sagar sanctuary in Madhya Pradesh is the preferred location for the next lot of imports, Banni in Gujarat is also getting readied to house some of the big cats to land in India.

**KEY FACTS ABOUT REINTRODUCTION IN BANNI GRASSLAND**

- Considered a potential habitat for cheetahs for over a decade.
- Basic infrastructure being set up in Banni to accommodate cheetahs.
- Gujarat government preparing suitable enclosures for breeding and conservation.
- Current prey species include chinkara and blackbuck, insufficient to sustain cheetah population.
- Plans to introduce chital to support cheetahs in Banni's ecosystem.
- **Comparison with Other Locations**
  - Gandhi Sagar sanctuary in Madhya Pradesh preferred for next cheetah imports.
  - Banni offers more space than Kuno and Gandhi Sagar but faces prey availability challenges.
- **Long-Term Viability**
  - Absence of leopards in Banni considered advantageous for sustaining cheetah population.
  - Long-term plan includes gradual increase in cheetah population with adequate prey availability.
- **Current Status**

  - 13 adult cheetahs and 13 cubs currently housed in Kuno reserve.
  - All cheetahs expected to be released into the wild by October.
- **Challenges and Considerations**
  - Previous challenges include infections and acclimatization issues leading to fatalities.
  - Continuous monitoring and management crucial for successful reintroduction and breeding.

KEY FACTS RELATED TO BANNI GRASSLAND RESERVE
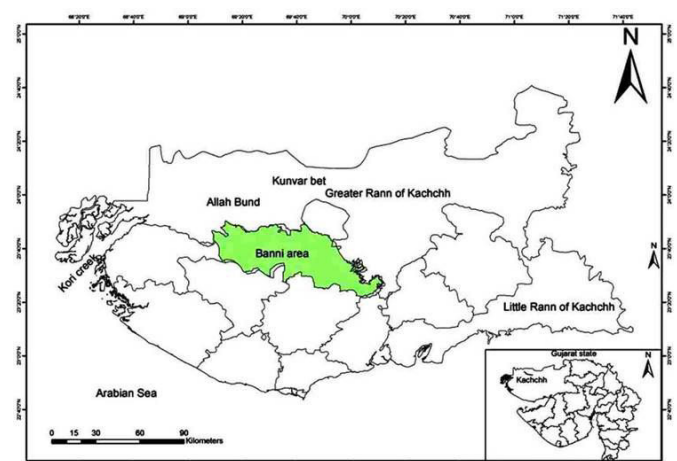
- **Location and Area**
  - Located on the outer southern edge of the Rann of Kutch in Kutch District, Gujarat, India.
  - Formed from sediment deposits by the Indus and other rivers over millennia.
- **Protected Status and Management**
  - Declared a protected forest in May 1955 under the Indian Forest Act, 1927.
  - Currently managed by Gujarat State's Forest department.
  - Recent proposals for a special management plan to restore and conserve the ecosystem.
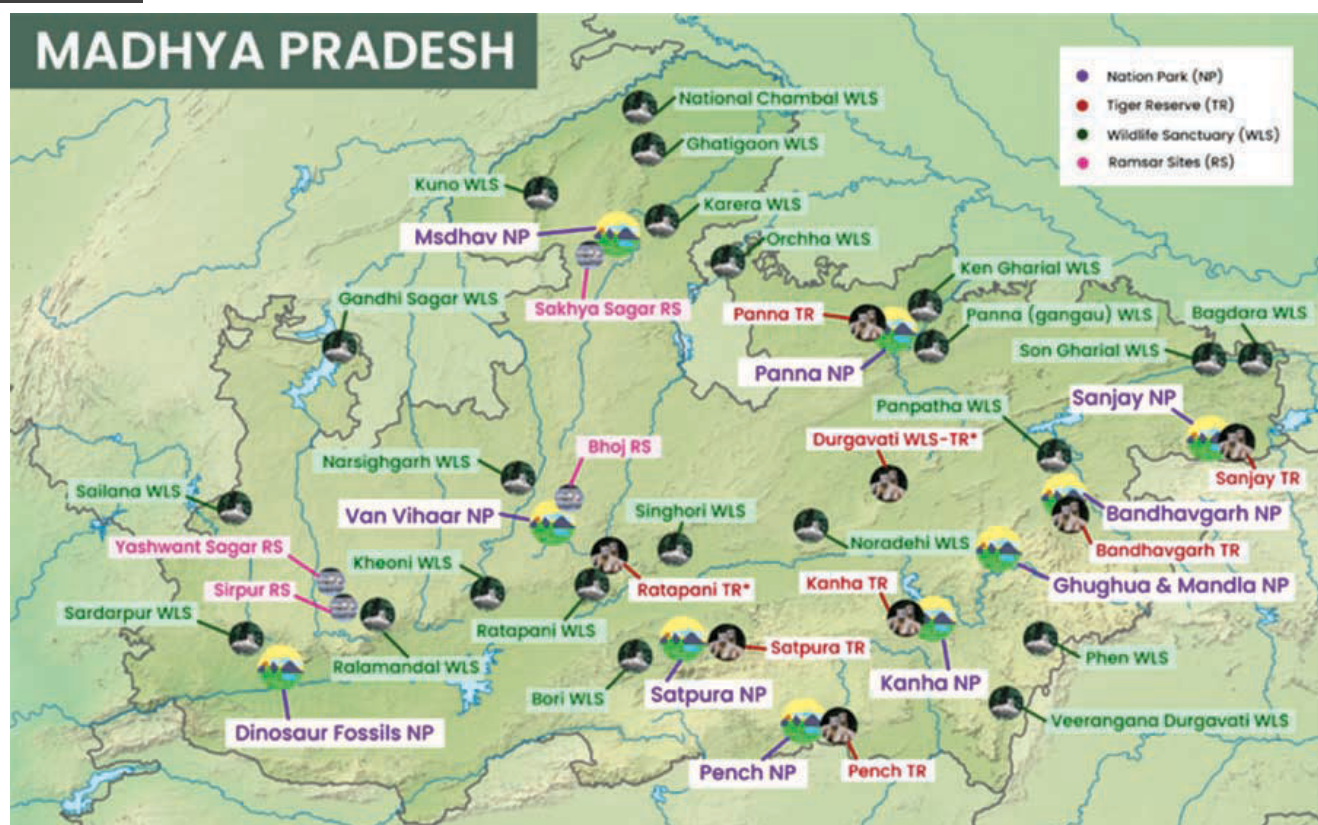- **Vegetation**
  - Sparse vegetation dependent on annual variations in rainfall.
  - Dominated by low-growing forbs, graminoids, and halophiles (salt-tolerant plants).
  - Tree cover includes Salvadora spp. and invasive Prosopis juliflora.
- **Wildlife**

- o Diverse mammalian species such as nilgai, chinkara, blackbuck, wild boar, golden jackal, Indian hare, Indian wolf, caracal, Asiatic wildcat, and desert fox.
- o Home to the increasing population of Indian wild ass (Equus hemionus khur).
- o Rich avifauna with over 150 species of migratory and resident birds during good rainfall years.
- **Human Settlements and Tribes**
  - o Inhabited by Sindhi-speaking Maldhari (cattle breeders) tribes including Halaypotra, Hingora, Hingorja, Jat, and Mutwa.
  - o Villages within the grasslands contribute to the cultural landscape.

KEY FACTS RELATED TO GANDHI SAGAR WILDLIFE SANCTUARY

- The sanctuary is spread across an area of 368.62 sq km, in the districts of Mandsaur (187.12 sq km) and Neemuch (181.5 sq km) in western MP.
- It sits atop a flat rocky plateau, with the Chambal river cutting the sanctuary into two almost equal halves.
- It has Savanna ecosystem (comprising open grasslands interspersed with dry deciduous trees and shrubs.) due to shallow top soil.
- It has trees like Salai, Kardhai, Dhawda, Tendu, Palash etc.
- It is part of World famous Chaturbhuj Nala rock shelters.
- It is knowns for some rare wildlife species like Wild Dogs (Dholes), Chinkara, Leopard, Otter, Mugger crocodile.

Biodiversity Conservation Efforts in Thazhakara Grama Panchayat

- **Historical Decline of Species:**
  - o Indian black turtle and other species such as Indian garden lizards and barn owls facing dwindling numbers due to poaching and habitat changes.
  - o Contrastingly, populations of rock pigeons and rufous treepies have increased.

- **Rich Biodiversity Assets:**
  - o Thazhakara boasts 38 sacred groves, 10 paddy polders, and 35 ponds.
  - o These areas support diverse flora and fauna, contributing significantly to local biodiversity.
- **People's Biodiversity Register (PBR) Initiative:**
  - o Thazhakara leads in Alappuzha and Kerala with the second volume of PBR.

o The 261-page document details comprehensive biodiversity information, traditional knowledge, and climate change impacts.

o Community involvement and trained volunteers conducted a thorough three-month survey.

- **Role in Conservation and Sustainable Development:**

o PBR serves as a critical tool for conservation, sustainable resource management, and protection of traditional knowledge.

o Local projects in agriculture, drinking water, and waste management are being planned based on PBR insights.

- **Statewide Impact:**

o Kerala was the first state in India to publish PBR across all local bodies.

o KSBB aims to update PBR in 50% of local bodies by 2024, emphasizing ongoing biodiversity monitoring and documentation.

PEOPLE'S BIODIVERSITY REGISTERS (PBR)

- The PBRs focus on participatory documentation of local biodiversity, traditional knowledge and practices.

  o The register shall contain comprehensive information on the availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them.

- They are seen as key legal documents in ascertaining the rights of local people over biological resources and associated traditional knowledge.

BIODIVERSITY MANAGEMENT COMMITTEES (BMCS)

- According to Section 41 of the Act, every local body shall constitute the BMC within its area to promote conservation, sustainable use and documentation of biological diversity including:

  o Preservation of habitats

  o Conservation of Landraces o Folk varieties and cultivars

  o Domesticated stocks and breeds of animals.

  o Microorganisms And Chronicling of Knowledge Relating to Biological Diversity

STRUCTURE

- It shall consist of a chairperson and not more than six persons nominated by the local body.

o Out of total members of a BMC, not less than one-third should be women and not less than 18% should belong to the Scheduled Castes/ Scheduled Tribes.

- The Chairperson of the Biodiversity Management Committee shall be elected from amongst the members of the committee in a meeting to be chaired by the Chairperson of the local body.

- The chairperson of the local body shall have the casting votes in case of a tie.

FUNCTIONS

- The main function of the BMC is to prepare People's Biodiversity Register in consultation with the local people.

- The register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other.

BT- COTTON
#INDIAN GEOGRAPHY

PRIMARY SOURCE | BusinessLine

A new variety of advanced Bt cotton (Ht Bt or BG III) is undergoing trials for commercial cultivation. Expected to reduce production costs and expand cotton cultivation, benefiting the textile industry. Approval pending completion of assessments by ICAR (Indian Council of Agriculture Research).

HISTORICAL CONTEXT AND CURRENT CHALLENGES

- Bt cotton (BG1) approved in 2002, followed by two-gene Bt cotton (Bollgard II) in 2006 to combat bollworms.

- Pink bollworm resistance emerged, impacting cotton production until recent management strategies boosted output.

SECTORAL GROWTH AND MARKET POTENTIAL

- Textiles and apparel market valued at $168 billion, projected to grow at 10% CAGR, aiming for $350 billion by 2030.

- India ranks third in textile exports globally, with expectations to reach $100 billion in exports.

UTILIZATION OF SELF-HELP GROUPS (SHGs)

- Utilization of 10.2 crore SHG members for cost-effective labour in textile sector.

- States like MP, UP, Bihar, and Odisha offering subsidies to promote textile industry growth.

POLICY AND INFRASTRUCTURE INITIATIVES

- Promotion of 'hub and spoke' model to enhance domestic manufacturing.
- Revival of Scheme for Integrated Textile Parks (SITP) to establish internationally standardized parks.

GEOPOLITICAL PERSPECTIVE

- Minister dismisses Bangladesh as a threat, aims to surpass China in future textile dominance.
- Cites challenges in Bangladesh including high water and raw material tariffs.

Bt COTTON

- Bt cotton is a **genetically modified pest-**resistant **plant cotton** variety modified by the insertion of one or more genes (Cry1 Ac) from the soil bacterium, **Bacillus thuringiensis.**
- Strains of the bacterium Bacillus thuringiensis **produce toxins** that are harmful to a variety of insects, and it has been found to **combat American bollworm** – moth larvae that commonly attack cotton crops.
- Bt cotton is **India's first transgenic crop formally approved for commercial cultivation** in 2002.
- **Aim** of introducing Bt cotton to India was to **reduce the amount of insecticide** needed in farming cotton.
- Benefits: Reduction in production cost, increase in profit, reduced farming risk and improved economic outlook for cotton, does not harm non-target beneficial insects, helpful in improving wildlife population, reduced run-off of insecticides and air pollution.

PINK BOLLWORM (PBW) MENACE AND PROJECT SAN-VARDHAN

#PRELIMSNUGGETS #INDIAN AGRICULTURE

PRIMARY SOURCE | BusinessLine

PINK BOLLWORM (PBW) MENACE

- PBW pests have severely damaged cotton crops over the past 3-4 years.
- Example: Farmer in Fazilka district destroyed his cotton crop due to PBW infestation.

PINK BOLLWORM

- Pink Bollworm is considered possibly the **most destructive pest on cotton** worldwide.
- It is **native to India** but is now found in nearly all the cotton-growing countries of the globe.
- **Description:** The larvae have **distinctive pink bands**, and the larval stage, is the most destructive and identifiable stage. The adults are **small moths** about 3/8 inch long.
  - **Threat:**
  - Adults lay eggs on cotton bolls; once hatched, the **larvae burrow into the developing fruits** (bolls) of cotton plants, eat the seeds and damage the fibres of the cotton.
  - The damage affects both the weight and quality of the harvested bolls containing the lint fibre and seeds inside, thus, **reducing both the yield and quality.**
  - When the larvae mature, they cut out the boll and drop to the ground and cocoon near the soil surface.
  - The **larvae can also survive in the seed** after the ginning process and if the seed is not fumigated, they will emerge from the stored seed the next spring.
  - Apart from cotton, they can also attack **hibiscus and okra.**

INNOVATIVE TECHNOLOGIES DEPLOYED

- **CREMIT Technology**
  - **Deployment:** Implemented by ATGC Biotech on 1,000 acres in Sirsa (Haryana) and Fazilka/Bhatinda (Punjab).
  - **Objective:** Eco-friendly population control through "Insect Family Planning" by disrupting mating of PBW.
  - **Mechanism:** Uses synthetic sex pheromones to confuse male moths during mating season, reducing PBW incidence.
  - **Endorsement:** Recommended by Punjab Agriculture University and other institutes.

Collaborative Initiatives

- **Project San-Vardhan (Cotton You Can Trust)**
  - **Participants:** Sportking India, ATGC Biotech, Reviving Green Revolution Cell, Team Athena.
  - **Purpose:** Promote CREMIT technology in Punjab and Haryana.

o **Focus:** Ensure sustainable cotton farming by reducing dependence on insecticides.

San Vardhan is a holistic approach to tackle the PBW issue, including package of practices of agronomy, nutrients, etc. It will also enable traceability of the produce. This is currently being implemented across 2,000 acres in three districts of Punjab and Haryana with about 500+ cotton farmers being trained on Integrated Nutrient Management (INM).

POLICY ADVOCACY

- **Demand for BG-III Cotton Seeds**
  o **Request:** Punjab Agriculture Minister seeks approval of next generation Bollgard-III cotton seeds.
  o **Reason:** Current BG-II seeds vulnerable to pests; BG-III seeds expected to offer better pest resistance.
  o **Advocacy:** Urges Union Agriculture Minister to expedite approval to combat ongoing pest attacks effectively.

FARMER PERSPECTIVES

- **Challenges Faced by Farmers**
  o **Example:** Farmer shift from cotton to moong due to PBW damage and lack of irrigation machinery.
  o **Need:** Access to resilient seeds and sustainable pest management technologies to safeguard crops.
- **Way Forward**
  o Emphasize adoption of innovative technologies like CREMIT.
  o Accelerate approval and adoption of BG-III cotton seeds to enhance crop resilience against pests.
  o Promote sustainable agricultural practices to ensure long-term viability of cotton farming in the region.

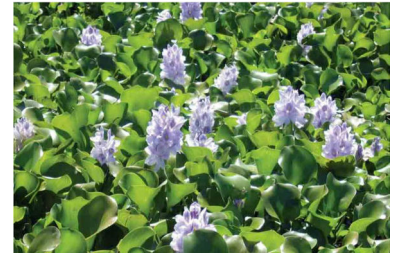# WATER HYACINTH

#PRELIMSNUGGETS #ENVIRONMENT AND ECOLOGY

PRIMARY SOURCE | THE HINDU

Water hyacinths cover a vast portion of the Vembanad lake at Kumarakom in Kottayam district of Kerala. This invasive species is detrimental to fish and other aquatic species and affects the flow of water.

WATER HYACINTH

- Water Hyacinth (Eichhornia crassipes) is a major freshwater weed found globally in lakes, rivers, and water bodies.

- It is an invasive alien species, known for its rapid growth, regeneration, and ability to form dense colonies.
- It obstructs sunlight, displaces native species, and is considered highly troublesome.

HISTORICAL CONTEXT AND INTRODUCTION TO BENGAL

- Introduction to India: Brought during British colonial rule from South America for ornamental purposes by George Morgan.
- Ecological Impact: Disrupted native ecosystems, hindering agriculture, navigation, and fishing.
- Economic Consequences: Contributed to agrarian decline, damaged infrastructure, and impeded river transport.

EARLY EFFORTS AND GOVERNMENT RESPONSE

- Initial Reaction: Recognized as a serious threat to agriculture and infrastructure.
- Legislative Measures: Laws enacted such as the Bengal Waterways Act to combat its spread, but with limited success.

UTILIZATION EFFORTS AND CHALLENGES

- Research and Findings: Discovered high nutrient content (potash, nitrogen, phosphoric acid) suitable for fertilizers and animal feed.
- Commercial Interest: Initial attempts to extract potash faced challenges due to variable quality.
- Government Dilemma: Balancing eradication vs. utilization for economic benefit.

SCIENTIFIC EXPLORATION AND ECONOMIC PROSPECTS

- Research Initiatives: Studied chemical composition and potential commercial uses.
- Commercial Ventures: Interest from companies like Shaw and Wallace & Co. for potash extraction.
- Government Response: Mixed reactions; Water Hyacinth Committee formed to deliberate.

PUBLIC HEALTH AND ENVIRONMENTAL IMPACT

- Public Health Concerns: Linked to malaria and cholera due to habitat for disease vectors.
- Environmental Impact: Indirectly contributed to disease spread and ecological imbalance.

ERADICATION EFFORTS AND LEGISLATIVE ACTIONS

- Government Intervention: Passed Water-hyacinth Act (1936) for organized eradication drives.
- Public Participation: Enthusiastic response from locals in clearing initiatives.
- Success and Legacy: Control achieved by 1947; subsequent use in agriculture and handicrafts.

CURRENT STATUS AND UTILIZATION

- Present Situation: Water hyacinth remains in parts of India and Bangladesh but managed effectively.
- Utilization: Used as organic fertilizer, fodder during floods, and in handicrafts.
- Economic Impact: Shifted from nuisance to resource in some areas, contributing positively to local economies.

Invasive Alien Species (IAS) are non-native organisms introduced intentionally or accidentally outside of their natural habitats, whose introduction or spread threatens biodiversity, ecosystems, economies, or human health. These species often outcompete native species, disrupt ecological balances, and pose significant challenges to management and conservation efforts.

INVASIVE ALIEN SPECIES IN INDIA AND THEIR IMPACT

India, with its diverse ecosystems and climates, is particularly vulnerable to the introduction and spread of invasive alien species. These species have been introduced through various pathways such as trade, agriculture, horticulture, and deliberate introductions for pest control or ornamental purposes.

Some notable invasive alien species in India and their impacts include:

- **Water Hyacinth (Eichhornia crassipes)**
  - o **Introduction:** Brought during British colonial rule as an ornamental plant, now widely spread in water bodies across India.
  - o **Impact:** Forms dense mats that block sunlight, reduce oxygen levels, and crowd out native aquatic plants. Disrupts water flow, affects irrigation, and impedes navigation. Economic losses due to reduced fisheries, agriculture, and tourism.
- **Lantana (Lantana camara)**
  - o **Introduction:** Introduced for ornamental purposes, now widespread in forests, grasslands, and degraded areas.
  - o **Impact:** Forms impenetrable thickets, reducing biodiversity by outcompeting native vegetation.

Alters soil composition and fire regimes, affecting ecosystem health and regeneration.

- **American Bullfrog (Lithobates catesbeianus)**
  - o **Introduction:** Introduced for aquaculture and as a biological control agent, escaped into natural habitats.
  - o **Impact:** Predates on native amphibians and small mammals, disrupting local food chains. Competes with native species for resources and habitats.
- **Prosopis species (Prosopis juliflora and others)**
  - o **Introduction:** Introduced for afforestation, now invasive in arid and semi-arid regions.
  - o **Impact:** Forms dense thickets, reducing grazing lands for livestock. Alters soil composition and groundwater levels, impacting local flora and fauna.
- **African Catfish (Clarias gariepinus)**
  - o **Introduction:** Introduced for aquaculture, escaped into natural water bodies.
  - o **Impact:** Predates on native fish species, leading to declines in biodiversity and fisheries production. Alters aquatic ecosystems and reduces water quality.

MANAGEMENT AND CONTROL STRATEGIES

The management of invasive alien species in India involves a multi-pronged approach including:

- **Prevention:** Strengthening regulations on importation and cultivation **of** potential invasive species.
- **Early Detection and Rapid Response (EDRR):** Monitoring and timely action to prevent establishment and **spread**.
- **Control Measures:** Utilizing mechanical, chemical, and biological methods for eradication or population control.
- **Public Awareness:** Educating stakeholders about the impacts of invasive species and **promoting** responsible practices.

CONCLUSION

Invasive alien species pose significant threats to India's biodiversity, ecosystems, agriculture, and public health. Effective management and control strategies are essential to mitigate their impacts and safeguard native species and habitats. Collaborative efforts involving government agencies, researchers, NGOs, and the public are crucial in addressing this ongoing challenge.

PRACTICE QUESTIONS

MCQS

Q1. With reference to Bt-Cotton, consider the following statements:

1. It is developed by insertion of genes from the indigenous cotton plants.
2. It is India's first transgenic crop formally approved for commercial cultivation.
3. It helped to reduce run-off of insecticide.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Q2. With reference to People's Biodiversity Register, consider the following statements:

1. It focus on participatory documentation of local diversity and traditional knowledge.
2. It is not considered as legal document in ascertaining the rights of local people over biological resources.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Q3. Consider the following statements with reference to Banni grassland:

1. It is located on the southern edge of Madhya Pradesh.
2. It was declared a protected forest under the Environment Protection Act 1986.
3. Maldhari tribes reside in these grasslands.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Q4. With reference to deep drilling project, consider the following statements:

1. It is an indirect method to study earth's interior.
2. Koyna region is under significant stress and prone to earthquakes.
3. It is conducted by Borehole Geophysics Research Laboratory under the Ministry of Environment, forest and Climate Change.

How many of statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None of the above

Q5. Consider the following statements with reference to La Nina:

1. It refers to an abnormal cooling of the central and eastern Pacific Ocean waters.
2. It leads to drought like condition in Southeast Asia.
3. La Niña results in increased hurricane activity in the Gulf of Mexico and the Caribbean.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None of the above

Q6. With reference to Heat Dome, consider the following statements:

1. It is a low-pressure system in the atmosphere trapping warm air like a lid on a pot.
2. It results in the absence of the formation of rain clouds.
3. Jet stream influenced the formation of heat dome.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None of the above

DESCRIPTIVE QUESTIONS

Q1. Explain the mechanism of La-Nina? How does it contribute to India's climate?

Q2. Heat Dome effect needs to be tackled to address the challenge of climate change in India's urban areas and extreme heat waves. Comment.

Answers: *1-b, 2-a, 3-a, 4-a, 5-b, 6-b*

SCIENCE & TECHNOLOGY

GS PAPER (PRELIMS) & GS PAPER III (MAIN)

ISRO SEEKS TO VENTURE INTO PLANETARY DEFENCE

#ASTRONOMY & SPACE TECHNOLOGY

PRIMARY SOURCE *The Indian* **EXPRESS**

Indian Space Research Organisation (ISRO) stated that the asteroid Apophis will pass by Earth at a distance of *32,000 km in 2029. ISRO intends to develop capabilities in planetary defence-an area it has so far not entered. A mission to study an asteroid would be the **first step towards building a programme aimed at preventing celestial bodies** from colliding with Earth with potentially catastrophic consequences.*

APOPHIS ASTEROID

- **Size:** Approximately 340 metres in diameter.
- **Composition:** Stony (S-type) asteroid made of silicate material and a mixture of metallic nickel and iron.
- **Origin:** Formed in the main asteroid belt between Mars and Jupiter.
- **Orbit:** Currently orbits closer to Earth due to gravitational influences from large planets like Jupiter. As a result, Apophis is classified as a **near-Earth asteroid**, as opposed to a main-belt asteroid.
- **Initial Scare:** Discovered in 2004, initial observations indicated a small chance of Apophis impacting Earth in 2029, causing a brief period of concern.
- **Close Encounter:** Further observation and refined calculations ruled out any chance of collision, however, Apophis will make a very close approach in 2029. Apophis' orbit will bring it within 20,000 miles (**32,000 kilometres) of Earth's surface** — closer to Earth than our highest-altitude satellites.
- **Scientific Opportunity:** This close flyby presents a golden opportunity for scientists to study the asteroid in detail using missions like OSIRIS-APEX, which will investigate how Earth's gravity affects Apophis.

KEY FACTS

- One AU (Astronomical Unit) is approximately equal to 93 million miles - the **distance between the Sun and the Earth**. The closest asteroids which travel within **1.3 AU** of the sun are called **near-Earth objects (NEO)**.
- If an NEO's orbit also intersects Earth's orbit, and the object is larger than about 140 metres in diameter, then it is classified as a **potentially hazardous object** (PHO).

ASTEROIDS

- Asteroids are **rocky remnants** from the early formation of our solar system (about 4.6 billion years ago). They are rocky, metallic, or icy bodies with no atmosphere.
- Of the roughly one million known asteroids, the greatest number are located between the orbits of **Mars and Jupiter, in a region known as the main asteroid belt.**
- The **asteroid belt** is a **nearly flat ring** that contains millions of asteroids, **ranging in size** from less than 10 metres to 530 kms (The largest asteroid is **Ceres,** which is about one-quarter the size of Earth's moon).
- They are generally classified to be of three types: **C-type, M-type, and S-type,** i.e., carbonaceous, metallic, and siliceous compositions, respectively.
- The first close-up observation of an asteroid was **made by the NASA's Galileo spacecraft (1991)**.

ASTEROIDS AS THREATS FROM SPACE

- Thousands of Asteroids enter the Earth's atmosphere every day. Most are very small and burn up in the atmosphere due to friction and some of the larger ones burn and show up as fireballs in the sky.
- In some cases, unburnt fragments make it to the surface, although they are not large enough to cause much damage.
  - In 2013, a 20-metre-wide asteroid entered the atmosphere and exploded about 30 km above a
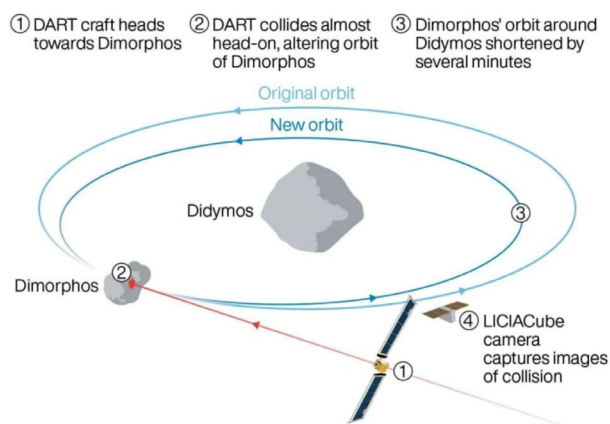
Russian town. While most of the energy released was absorbed by the atmosphere, shock waves travelled to the ground, flattened trees, damaged buildings, and injured 1,491 people.

- A planetary defence programme seeks to track and neutralise such threats.

PLANETARY DEFENCE PROGRAMMES

1. Double Asteroid Redirection Test spacecraft (DART):

- DART was a groundbreaking mission by NASA, **launched in 2021,** that aimed to test a method for defending Earth from potentially hazardous asteroids.

- **Target:** The mission targeted the **binary asteroid system** which consists of a larger asteroid called **Didymos** and a smaller asteroid called **Dimorphos.**

- **Objective:** The goal was to **intentionally crash the DART spacecraft into Dimorphos** to slightly alter its orbit around Didymos.

- **Impact:** The impact occurred on September 26, 2022, successfully altering Dimorphos's orbit.

- **Significance:** This was the first time humanity intentionally altered the motion of a celestial body. The data gathered from DART will help scientists **develop more effective strategies for deflecting asteroids** that pose a threat to Earth in the future.

① DART craft heads towards Dimorphos ② DART collides almost head-on, altering orbit of Dimorphos ③ Dimorphos' orbit around Didymos shortened by several minutes

Original orbit
New orbit
Didymos
③
Dimorphos ②
④ LICIACube camera captures images of collision
①

PA graphic. Source: Johns Hopkins University Applied Physics Laboratory

2. OSIRIS-APophis EXplorer (OSIRIS-APEX):

- NASA has redirected its Space-craft **OSIRIS-REx** (Origins, Spectral Interpretation, Resource Identification, and Security – Regolith Explorer) that previously studied the **asteroid Bennu**, to track Apophis.

  ○ After successfully completing its mission to gather a sample of asteroid Bennu in September 2023, OSIRIS-REx was **renamed OSIRIS-APophis EXplorer (OSIRIS-APEX).**

- OSIRIS-APEX is a mission to **study the physical changes to asteroid Apophis** that will result from its rare close encounter with Earth in April 2029.

- Our planet's gravitational pull is **expected to alter the asteroid's orbit,** change how fast it spins on its axis, and possibly cause quakes or landslides that will alter its surface. OSIRIS-APEX will allow scientists on Earth to observe these changes.

- Additionally, the OSIRIS-APEX spacecraft will **dip toward the surface of Apophis** -and fire its engines to kick up loose rocks and dust. This manoeuvre will give scientists a peek at the composition of material just below the asteroid's surface.

EXPERIMENT NOvA

#ASTRONOMY & SPACE TECHNOLOGY

PRIMARY SOURCE | THE HINDU

*The study of neutrinos is an area of immense current interest among particle physicists and astrophysicists. NOvA is an experiment designed to **determine the role of neutrinos** in the evolution of the cosmos.*
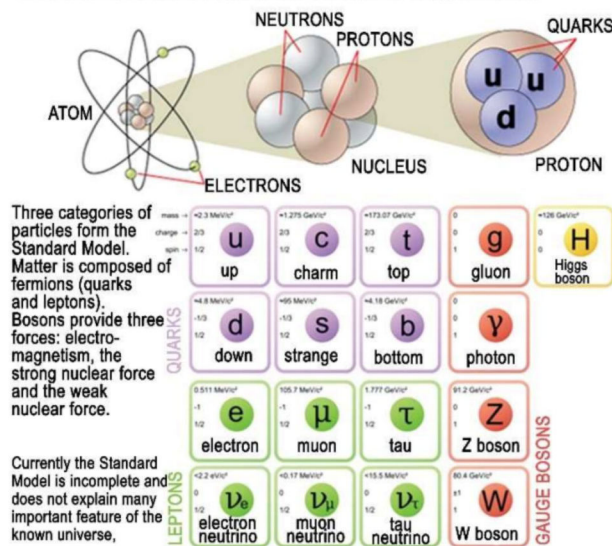
NEUTRINOS

- Neutrinos belong to a group of fundamental particles called **leptons** in the Standard Model of particle physics.

- They have **no electric charge** and **very little mass** (nearly massless).

- They are the **second-most abundant particles after photons** (particles of light) and the most abundant among particles that make up matter.

- They **very rarely interact with matter** and that is why they are called **"ghost particles"**. This means they can travel through vast distances, including entire planets, almost undetected.

- There are **three main types of neutrinos**: Electron neutrino, Muon neutrino and Tau neutrino. These particles are produced when particles called leptons interact with matter.

  ○ **For example,** when a type of **lepton called a muon** interacts with matter, the interaction produces a muon-neutrino.

○ The same goes for **electrons** (electron-neutrino) and **tauons** (tau-neutrino).

- **Source of Neutrinos:** Stars, Supernovae, Galaxies, Nuclear reactions.

The Standard Model: Beyond the Atom

The Standard Model is the collection of theories that describe the smallest experimentally observed particles of matter and the interactions between energy and matter.
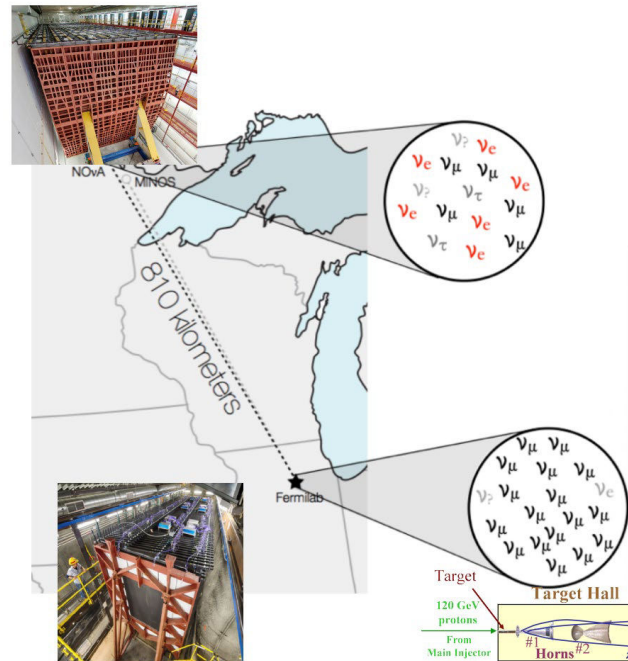
ABOUT NOvA EXPERIMENT

- The NOvA (NuMI Off-axis νe Appearance) experiment is a **prominent neutrino experiment** designed **to study neutrino** oscillations **and properties**.

- NOvA is specifically designed to **observe the transformation of muon neutrinos into electron** neutrinos as they travel over a long distance. To achieve this, the experiment utilises two detectors located in the US:

  ○ **Near Detector:** Located at Fermilab, Illinois in the **USA**, this detector studies the neutrino beam before it undergoes significant oscillation.

  ○ **Far Detector**: Situated in northern Minnesota, approximately **810 kilometres** from the near detector, this detector observes the neutrino beam after it has travelled a long distance and potentially oscillated.

    By **comparing the neutrino composition at both detectors**, scientists can measure the oscillation rate and gather valuable information about neutrino properties.

- **Timeline:** The NOvA experiment began data collection in 2014 and is currently ongoing.

The NOvA experiment

QUEST FOR THREE IMPORTANT QUESTIONS

The NOvA experiment is designed to answer **three fundamental questions** in neutrino physics:

1. Can we observe the oscillation of muon neutrinos to electron neutrinos?

- Neutrinos come in three varieties: muon neutrinos, electron neutrinos and tau neutrinos. Neutrinos can oscillate or change from one type to another, for example, **oscillations of muon neutrinos to tau neutrinos.** But scientists have not seen muon neutrinos oscillating into electron neutrinos.

- So, the aim is to understand the **unknown factors that govern neutrino oscillations** that would significantly improve our understanding of how the universe is constituted.

2. What is the ordering of the neutrino masses?

- Masses of neutrinos are about a million times lighter than the masses of other particles in the Standard Model. Presently, it is believed that **neutrinos get their masses through a different process than the other particles.**

  ○ **Standard Model:** Most particles obtain their mass through interactions with the Higgs field.

- ○ **Neutrinos:** The exact process is still under investigation, with theories suggesting mechanisms beyond the Standard Model.
- The **masses of the different neutrino types** and their mass hierarchy (which kind of neutrino is the lightest and which is the heaviest) is not yet known, as of now.
- **Knowledge of the mass hierarchy** also will help answer the question of **whether neutrinos are their own antiparticles**.
  - ○ Particles and antiparticles have opposite charges.
  - ○ Because neutrinos have no electric charge, it is possible that neutrinos and antineutrinos are fundamentally the same.

3. What is the symmetry between matter and antimatter?

- Physicists theorise that the **big bang created equal amounts of matter and antimatter.** When corresponding particles of matter and antimatter meet, they annihilate one another. But presently we observe a **matter-dominated universe** (this is called Charge-Parity violation). So, it appears that at some point, matter and antimatter behaved differently from one another.
- In order to advance the theory that neutrinos **tipped the balance between matter and antimatter,** neutrino physicists need to observe Charge-Parity violation in action.
  - ○ If the NOvA collaboration discovers that muon antineutrinos oscillate at a different rate than muon neutrinos, they will know the symmetry between the neutrinos and antineutrinos is broken. This could be a clue to **why the universe has more matter than antimatter** – the reason we exist.

SPACEX FALCON 9 ROCKET

#ASTRONOMY & SPACE TECHNOLOGY

PRIMARY SOURCE | *The Indian* **EXPRESS**

*In a rare event, SpaceX's Falcon 9 Rocket recently suffered a **failure in its upper stage engine** that left 20 Starlink internet satellites in a low, non-survivable orbit.*

Major Highlights:

- The rocket's second stage experienced a **liquid oxygen leak**, and failed to complete a second short engine

burn needed to place the satellites in the correct/intended orbit.

- Falcon 9 Rocket has been the workhorse of SpaceX, and till date has launched successfully **364 times**, carrying astronauts, payloads for SpaceX's commercial clients and thousands of Starlink satellites to orbit.
- The last time Falcon 9 experienced a serious incident was when the rocket blew up on the launchpad in **September 2016.**

ABOUT SpaceX FALCON 9 ROCKET

- **Designed and manufactured by:** SpaceX
- Falcon 9 is a **partially reusable two-stage rocket** that can propel **both satellites and astronauts** into a variety of orbits.
  - ○ It can lift up to:
    - ▪ **22,800 kg** to Low Earth Orbit (an altitude of 2000 km or less).
    - ▪ **8,300 kg** to Geostationary Transfer Orbit (GTO).

Falcon 9 dimensions and characteristics

Source: AP, SpaceX
Graphic: Staff, Tribune News Service
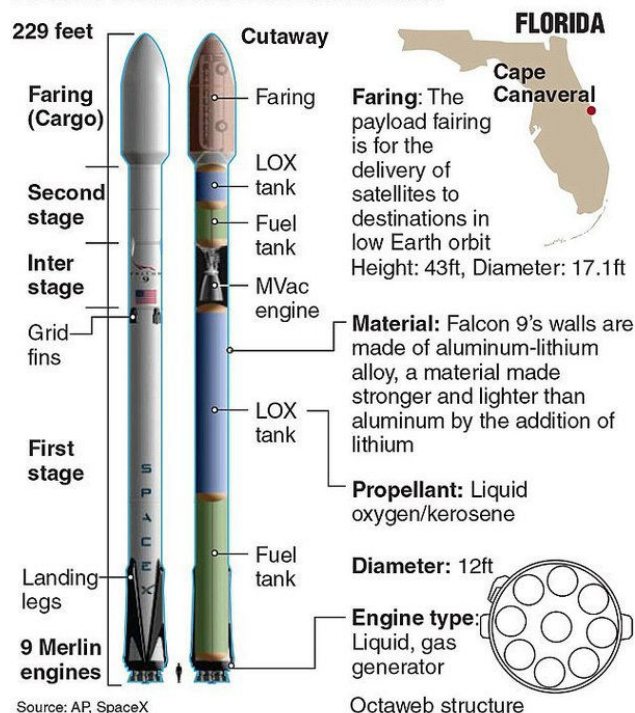
KEY FEATURES

- **The rocket has two stages.**
  - ○ The **first stage or booster stage** comprises nine Merlin engines (a family of rocket engines developed by SpaceX) which use **RP-1 (rocket-grade kerosene)** and **liquid oxygen** (LOX) as propellants.

- The **second stage** consists of a single Merlin engine.
- **Reusability:** The **first stage** of the rocket is reusable. It is capable of re-entering the Earth's atmosphere and landing vertically on Earth after separating from the second stage. This significantly **reduces the cost of access to space.**

NOTABLE MISSIONS OF FALCON 9

- **Starlink:** Falcon 9 is the workhorse for deploying SpaceX's Starlink satellites, aimed at providing global internet coverage.
- **CRS Missions:** Falcon 9 has been used extensively for NASA's Commercial Resupply Services (CRS) missions to the International Space Station (ISS).
- **Crew Dragon:** Falcon 9 launched the **first commercial spacecraft (Crew Dragon/ Dragon 2)** capable of carrying astronauts to the ISS and LEO. Crew Dragon is a spacecraft developed and manufactured by SpaceX as part of NASA's **Commercial Crew Program**. It can carry up to seven astronauts. For NASA missions, it typically carries four astronauts and some cargo.
- **Polaris Dawn mission:** It is the planned private human spaceflight mission scheduled to be launched in August 2024, using the Falcon 9 rocket.

SUSTAINABLE AVIATION FUEL

#ENERGY TECHNOLOGY

PRIMARY SOURCE — THE HINDU BUSINESS LINE

*Indian Sugar & Bio-Energy Manufacturers Association (ISMA) has expressed its readiness to support the government in meeting the international aviation blending targets set to take effect from 2027 under the **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) mandate**.*

ABOUT SUSTAINABLE AVIATION FUEL (SAF)

- SAF is a biofuel used to **power aircraft** that has similar properties to conventional jet fuel but with a smaller carbon footprint.
- It can be **blended** at different levels with limits between 10% and 50%, depending on the feedstock and how the fuel is produced.
- **Sources of SAF:**
  - Oil seeds, other fats, oils, and greases

- Agricultural residues, Forestry residues, Wood mill waste
- Municipal solid waste streams, Wet wastes (manures, wastewater treatment sludge)
- It can also be produced **synthetically via a process that captures carbon directly from the air.**

ADVANTAGES

- **Engine and infrastructure compatibility:** SAF blended with conventional Jet A can be used in existing aircraft and infrastructure.
- **Fewer emissions**: Compared with conventional jet fuel, 100% SAF has the potential to reduce greenhouse gas emissions by up to 94% depending on feedstock and technology pathway.
- **Sustainable:** The raw feedstock does not compete with food crops or water supplies, or is responsible for forest degradation.
- **More flexibility:** SAF is a replacement for conventional jet fuel, allowing for multiple products from various feedstocks and production technologies.

CHALLENGES ASSOCIATED WITH SAF

- SAF is about **four times more expensive** than petroleum jet fuel.
- SAF success will **require using a greater diversity** of feedstock and production methods

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Key Facts:
- International Civil Aviation Organisation's **(ICAO)** is dedicated to reducing carbon emissions from international civil aviation.
- To mitigate the environmental impact of aviation, ICAO has set several aspirational goals:
  1. **Two Percent Annual Fuel Efficiency Improvement:** Targeted through 2050.
  2. **Carbon Neutral Growth:** Striving for no net increase in CO2 emissions from international aviation.
  3. **Net Zero Emissions by 2050:** Aiming for zero net carbon emissions.
- These goals are encompassed under two major initiatives: Carbon Offsetting and Reduction Scheme for International Aviation **(CORSIA)** and the Long-Term Aspirational Goals (LTAG).

CORSIA IMPLEMENTATION PHASES

- CORSIA will be implemented in three phases:
  1. **Pilot Phase (2021-2023):** Voluntary participation by States.
  2. **First Phase (2024-2026):** Also voluntary, but with expanded participation.
 3. **Second Phase (2027 onwards):** Mandatory for all ICAO member states, including India.

HYPERLOOP TECHNOLOGY

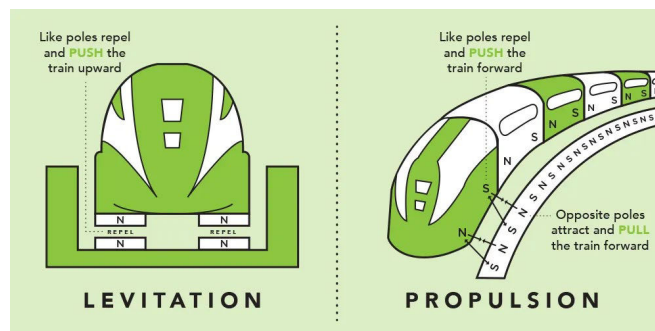## #NEW EMERGING TECHNOLOGY

PRIMARY SOURCE | THE HINDU BUSINESS LINE

Indian Institute of Technology, Madras plans to host global college level hyperloop competition in February 2025. This will be the first time that such a competition will be hosted in India, usually such a competition is organised in the USA or EU.
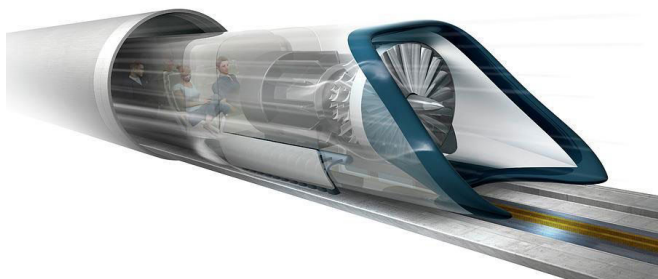
ABOUT HYPERLOOP TECHNOLOGY:

- Hyperloop is an **ultra-high speed ground transportation system** for passengers and cargo.
- Hyperloop systems **consist of a low-pressure or vacuum network of tubes** through which capsules may **travel free or with very less friction and air resistance** at a **high speed.**
- **Magnetic Levitation:** The basic principle behind the operation of Hyperloop technology is magnetic levitation which states that the **vehicle can be suspended and propelled on a guidance track made with magnets.**

LEVITATION — Like poles repel and **PUSH** the train upward

PROPULSION — Like poles repel and **PUSH** the train forward; Opposite poles attract and **PULL** the train forward

COMPONENTS OF HYPERLOOP

- **Vacuum Tubes:** Tubes are maintained at a near vacuum state to reduce air resistance, allowing pods to travel at high speeds with minimal friction.
- **Capsule/Pods:** Capsules or pods have aerodynamic design which are streamlined to minimise drag.

ADVANTAGES OF HYPERLOOP

- **Ultra-high speeds:** Contactless levitation and propulsions systems combined with a low pressure environment allow hyperloop pods to travel efficiently at ultra-high speeds.
- **Direct city connections:** Ultra-High speeds of hyperloop allows coverage of large distances within minutes. Thus, reduces door-to-door travel time by directly connecting mobility hubs.
- **Emission free mobility**: As it is fully electric, using renewable energy to power hyperloop systems can make the entire hyperloop as climate-neutral over the course of its life cycle.

CHALLENGES IN MAINSTREAMING HYPERLOOP

- **High cost:** Hyperloops systems are very costly to implement due to the high cost of building long intercity vacuum tubes.
- **High energy requirement:** Hyperloop trains consume a large amount of energy as they are expected to consume 4-5 times of energy as compared to Shinkansen trains in Japan.
- **Problem with corners:** Hyperloop systems find it difficult to navigate corners. This requires building long straight line tubes which is often difficult to find space and time.
- **Limitations for humans:** Human body is not designed to handle large lateral or vertical accelerations without intense nausea.
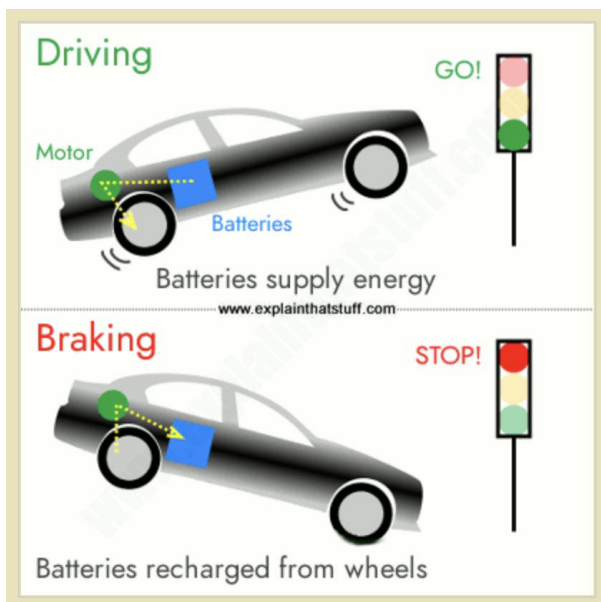- **Regulatory issues** and the technology is still in development.

REGENERATIVE BRAKING SYSTEM

#ENERGY TECHNOLOGY

PRIMARY SOURCE | THE HINDU

ABOUT REGENERATIVE BRAKING SYSTEM

- A regenerative braking system is a technology used in **electric and hybrid vehicles to recover the kinetic energy** of the vehicle that would otherwise be lost during **braking.**
  - Braking is the mechanism by which an **automotive vehicle in motion slows down.** A vehicle moving faster has more kinetic energy than a vehicle moving slower, so the **process of braking removes (mostly) kinetic energy** from the vehicle.
  - In the traditional braking systems, when the brakes are applied the **kinetic energy** from the vehicle is **converted into heat,** which is then dissipated into the environment.

- In regenerative braking systems, instead of converting the **kinetic energy into heat**, it is **converted into electrical energy** which can then be stored **in the vehicle's battery** for later use. This is done by using the **electric motor in the vehicle which acts as a generator** during the braking process.

Driving — Motor, Batteries — Batteries supply energy — GO!
www.explainthatstuff.com
Braking — Batteries recharged from wheels — STOP!

WORKING OF REGENERATIVE BRAKING SYSTEM

- **Kinetic Energy Conversion:** When a vehicle is in motion, it possesses kinetic energy. When the driver applies the brakes, the regenerative braking system starts working.

- **Motor as a Generator**: The electric motor which normally drives the wheels, **operates in reverse** during braking. It starts **acting as a generator,** converting the vehicle's **kinetic energy into electrical energy.**

- **Energy Storage:** The electrical energy generated during braking is directed to the vehicle's battery or a supercapacitor for storage, which can be used later to power the vehicle.

BENEFITS OF REGENERATIVE BRAKING:

- **Improved Energy Efficiency & reduced emissions**: By recovering and reusing energy, regenerative braking **reduces the overall energy consumption** of the vehicle and reduces emission of heat.

- **Reduced Wear and Tear:** Because regenerative braking reduces reliance on traditional friction brakes, it can **decrease wear and tear on brake components, l**eading to lower maintenance costs.

LIMITATIONS

- **Efficiency Variations**: The **efficiency of energy recovery decreases** as the vehicle's speed drops. (Lesser the speed of vehicle, lesser kinetic energy is available for conversion to electrical energy and storage)

- **Not a Complete Replacement:** Regenerative braking often cannot bring a vehicle to a complete stop on its own and must be supplemented with conventional braking systems.

PROJECT ZORAWAR LIGHT TANK

#DEFENCE TECHNOLOGY

PRIMARY SOURCE | THE HINDU

*Defence Research & Development Organisation (DRDO) has completed **initial internal trials** of the indigenous light tank called 'Zorawar LT'.*

ABOUT PROJECT ZORAWAR LT (LIGHT TANK)

- India is developing **indigenous light tanks** under **'Project Zorawar'** for quicker deployment and movement in high-altitude warfare in places like eastern Ladakh and Arunachal Pradesh.

  - Light tanks are battlefield tanks with a **maximum weight of 25 tonnes - with a margin of 10 percent** - with the same firepower as its regular tanks.

  - They have been developed to **counter Chinese deployment** of a large number of similar armoured columns along the Line of Actual Control (LAC).

- **Induction:** India Army aims to procure a **total of 354 such light tanks** which is estimated to cost Rs 17,500 crore which has been given preliminary approval or 'acceptance of necessity' by Defence Acquisition Council in December 2022. Defence Acquisition Council is headed by the Union Defence Minister. These tanks will be inducted by 2027.

CHARACTERISTICS

- **Amphibious tanks** i.e. they can cross rivers and other water bodies much more easily than its predecessors, like the heavyweight T72 and T90 tanks.

- **All-weather capability** and can target tanks, armoured vehicles, UAVs and precision guided munitions, among others.

- **Can be loaded with** anti-aircraft and ground role-centric weapons besides advanced multipurpose smart munitions and anti-tank guided missiles.

- **Long range** for identifying enemy targets, **thermal night fighting capability** and **stealth features,** such as the ability to suppress visual, audio/acoustic, thermal and electromagnetic signatures.

- It has capabilities such as **Artificial Intelligence**, integration of tactical surveillance drones to provide a high degree of situational awareness and loitering munition, along with an active protection system.

- Includes an **Active Protection System** to protect these from anti-tank guided missiles and projectiles.

## SIGNIFICANCE OF THESE TANKS FOR INDIA'S DEFENCE

- Allow the Indian Army to match or **increase its capabilities in mountain warfare.**

- Can exploit the limited space available in mountainous terrains by way of **enhanced mobility and additional warfare.**

- Current Indian tanks such as T-90, T-72, Arjun weigh between 40-68.5 tonnes, which makes it difficult to deploy them. As compared to these, Zorawar tanks have a weight around 25 tonnes and physical dimensions which enables its **easy transportation by air, road and water.**

ELECTROEN-CEPHALOGRAM

#MISCELLANEOUS

PRIMARY SOURCE | THE HINDU

*Invented by **Hans Berger** in 1924, EEG or electroencephalography marks the centenary of its invention.*
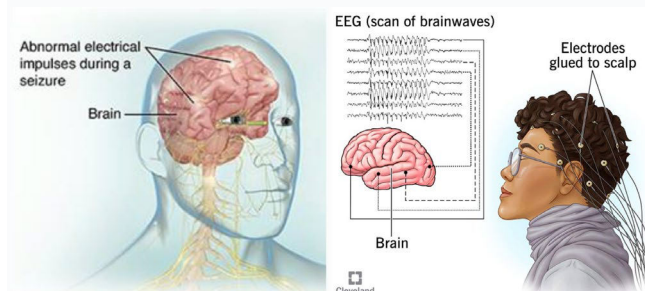
ABOUT ELECTROENCEPHALOGRAPHY (EEG)

- **EEG** is a diagnostic tool that **measures the natural electrical activity in the brain** over a period of time using multiple electrodes placed on the scalp.

- **Mechanism:** EEG detects **abnormalities in your brain waves,** or in the electrical activity of your brain.

  - During an EEG, **electrodes are pasted** onto the scalp. These are small metal disks with thin wires that **detect tiny electrical charges** that result from the activity of brain cells.

○ The **detected signals are amplified** and recorded on a computer as wavy lines.

○ In case epilepsy is present, the seizure activity will appear as **rapid spiking waves** on the EEG.

• It is a crucial tool in both clinical diagnostics and scientific research, providing invaluable insights into brain function without **invasive procedures.**

APPLICATIONS

• **Diagnosis** of epilepsy, used to evaluate trauma, drug intoxication, or the extent of brain damage in a person who is in a coma.

• **Monitors blood flow** in the brain or blood vessels in the neck during surgery.

• **Evaluates sleep patterns** and disorders.

• **Used in research** to study brain function and cognition.

ADVANTAGES

• Non-invasive, relatively simple, and cost-effective compared to other neuroimaging techniques like Magnetic Resonance Imaging (MRI).

• Does not emit radiation.

LIMITATIONS

• Bias towards detecting signals near the scalp.

• Difficulty in pinpointing the exact origin of deeper brain activity.

• Requires careful data interpretation to account for noise to ensure accurate diagnostic outcomes.

• In rare cases, it might trigger seizures in patients with epilepsy due to flashing lights during the test.

JUMPING GENES

#BIOLOGY & BIOTECHNOLOGY

PRIMARY SOURCE | THE HINDU

JUMPING GENES

• **Transposons**, also known as **jumping genes**, are the **mobile DNA sequences** that have the **ability to move and replicate within the genome** of an organism.

• They are surprisingly common and **make up about half of the human genome.** They influence gene expression and contribute to genetic diversity.

SIGNIFICANCE

• **Mutagenic effect:** Transposon insertions can **disrupt gene function** and cause genetic defects.

○ When a transposon inserts itself within the coding region of a gene, it can **interrupt the normal sequence of DNA that codes for a protein.** This can lead to a non-functional protein or a protein with altered function.

○ **E.g.,** In the case of haemophilia A, the insertion of a transposon into the **factor VIII gene** prevents the body from making the necessary blood clotting protein, resulting in the condition characterised by difficulty in controlling bleeding.

• **Understanding evolution of species:** Transposon insertions can **influence gene expression** and **contribute to genetic diversity** and can serve as **genetic markers**. Analysing the distribution and dynamics of transposons within and across genomes can help understand the evolution of genome structure.

• **Gene therapy:** They also have **potential applications in gene therapy,** where they can be used to **deliver genes to specific cells. E.g.,** Transposons, such as the Sleeping Beauty and PiggyBac transposons are being explored as they can efficiently **integrate therapeutic genes into the host genome.**

• **Genome Editing:** Transposons can be combined with other genome editing tools, like CRISPR-Cas9, to create precise and targeted genetic modifications for replacing faulty genes or correcting chromosomal abnormalities. **E.g.,** A new method uses RNA-guided transposons for gene editing.

LAST UNIVERSAL COMMON ANCESTOR

#BIOLOGY AND BIOTECHNOLOGY

PRIMARY SOURCE THE HINDU

Researchers in the UK have dated the existence of the Last Universal Common Ancestor (LUCA) from which all life forms evolved using the theory of molecular clock.

THEORIES OF ORIGIN OF LIFE ON EARTH

Many theories have been propounded by scientists on the origin of earth. However, there is no consensus on the exact mechanism of origin of life on earth.

- **Oparin-Haldane Hypothesis:** Alexander Oparin and J. B. S. Haldane independently proposed that the first molecules making up the earliest life form gradually self-organised from a 'primordial soup' in a young earth's difficult prebiotic environment.

- **Miller-Urey Experiment:** Stanley Miller and Harold Urey from the University of Chicago showed that in the right conditions, inorganic compounds could give rise to complex organic compounds. They mixed methane, ammonia and water and then applied electric current - like a lightning strike. The result of this experiment was that the mixture contained amino acids, which are building blocks of proteins.

- **Meteoritic Origin:** Some scientists believe that meteorites from space could have brought building blocks of life, which was sustained by Earth. In 2019, French and Italian scientists reported discovering extra-terrestrial organic material 3.3 billion years old. Japan's Hayabusa 2 mission to asteroid Ryugu indicated the presence of more than 20 amino acids there.

ABOUT LAST UNIVERSAL COMMON ANCESTOR
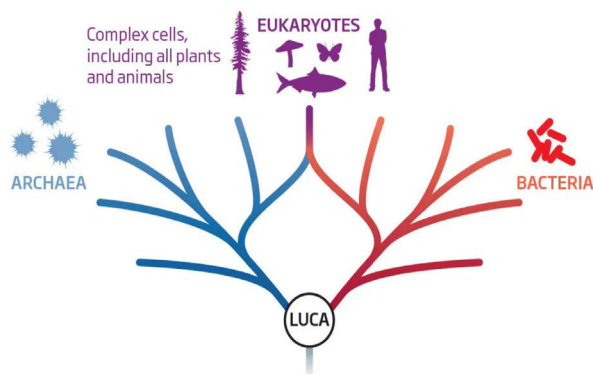
- Scientists believe that **all three branches of life** - bacteria, archaea and eukarya - originated from **a single cell**, called the **last universal common ancestor** (LUCA).

- There is **no fossil evidence** to support the existence of LUCA.

THEORY OF MOLECULAR CLOCK

- Scientists reconstruct the 'tree of life' using the theory of molecular clock. According to this theory, the rate at which mutations are added or removed from a population's genome is proportional to the rate of acquiring new mutations i.e., **genetic mutations in the genetic material occur at a relatively constant rate over time**. The rate of mutations also varies between species.

  - Using this, researchers have developed a way to estimate **how much time could have passed between two evolutionary events.**

  - Links between a genome and known events, like the date of origin of first mammals, is used to calibrate the molecular clock.

  - Researchers from the University of Bristol and Exeter in the UK have constructed a phylogenetic tree of 350 bacterial and 350 archaeal genomes.

FACTS ABOUT LUCA

- The team estimated **LUCA could have originated around 4.2 billion years ago**, just 300 million years after the birth of earth. These are about **one billion years older than the earliest fossil evidence** found on earth at Pilbara Craton in Western Australia.

  - Researchers have found fossil records of the earliest life-forms in the Pilbara Craton in western Australia, which is one of the few places on the planet where archaean rocks are exposed on ground.

  - These fossils are organisms which lived around **3.4 billion years ago.**

- According to researchers, LUCA had a **small genome with only 2.5 million bases** which encoded around 2,600 proteins, just enough to help it survive in a unique environmental niche.

- Metabolites produced by LUCA; compounds produced as a result of its metabolism could have created a **secondary ecosystem** in which other microbes could have emerged.

Click here for **INDEX**

SIGNIFICANCE OF THE STUDY:

- Contributes significantly to our understanding of origin and evolution of life on earth.
- Enables us to look for similar forms of life across the universe.
- Provides fillip to our abilities to engineer synthetic organisms of various industrial, chemical and biological processes on Earth and create or moderate ecosystems on other planets.

CHANDIPURA VIRUS

#DISEASES

PRIMARY SOURCE | *The Indian* **EXPRESS**

In Gujarat, cases of deaths were reported by suspected Chandipura virus (CHPV) infection.

ABOUT CHPV INFECTION

- CHPV is a **single-stranded RNA virus** of the Rhabdoviridae family.
- **Vectors:**
  - Several species of **sandflies** and some mosquito species such as **Aedes aegypti** (which is also the vector for dengue).
  - The **virus resides in the salivary gland** of these insects, and can be transmitted to humans or animals through their bites.
- The viral infection can then **reach the central nervous system** which can lead to **encephalitis** (inflammation of the active tissues of the brain). Chandipura virus is **not contagious.**
- **Symptoms:** Initial **flu-like symptoms** such as acute onset of fever, body ache, and headache. It may then progress **seizures and encephalitis.** The infection progresses rapidly after encephalitis, which may then **lead to mortality** within 24-48 hours of hospitalisation. Susceptibility has largely remained limited to **children below 15 years.**
- **Treatment:** The infection can only be symptomatically managed as currently there is **no specific antiretroviral therapy or vaccine** available for treatment. As a result, it becomes crucial to manage brain inflammation to prevent mortality.

IMPACTED REGION

- The CHPV infection was **first isolated in 1965** while investigating a dengue/chikungunya outbreak in Chandipur district of Maharashtra.
- The infection has **largely remained endemic to the central part of India**. Significant outbreaks have occurred in states such as **Maharashtra, Gujarat and Andhra Pradesh**.
- The outbreak is **often reported in rural, tribal and peripheral areas** where the population of CHPV infection-spreading sand flies and mosquitoes is higher. It is more pronounced in the monsoon season because **sand flies multiply more during the season.**

SANDFLIES

- Sand flies are **tiny flies** — about the quarter of the size of a mosquito — that live in **warm areas**, usually those that are rural and forested.
- They are known to transmit a **protozoan parasite** — a single celled organism — that causes an infectious disease called **leishmaniasis.**
- There are **changes in patterns** of disease being reported. **E.g.,** Sandflies usually do not fly at a **height more than 3 feet** from the ground but, recently during surveillance, sandflies have been **found on terraces and higher heights.**
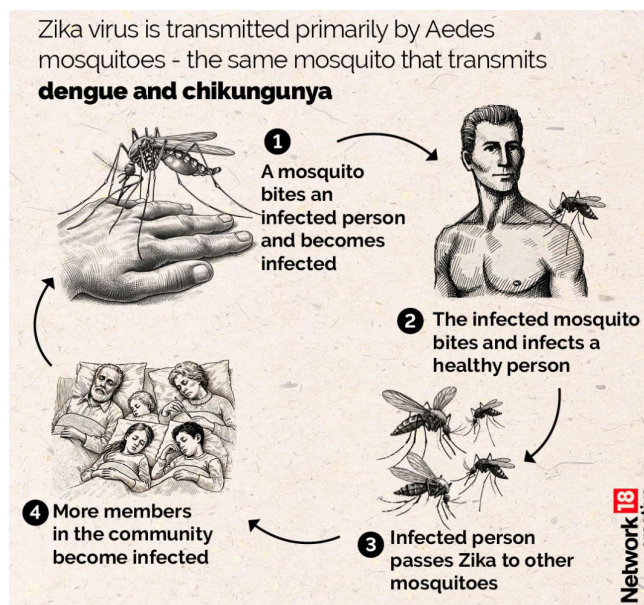
ZIKA VIRUS

#DISEASES

PRIMARY SOURCE | THE HINDU

*In response to reported cases of the **Zika virus in parts of Maharashtra,** the Union Health Ministry issued a nationwide advisory, urging states to prioritise **screening pregnant women for the Zika virus and to closely monitor the foetal development** of those who test positive for the infection.*

ABOUT ZIKA VIRUS

- Zika virus is a single-stranded **RNA virus** from the Flaviviridae family.
- The virus has **two major lineages: Asian and African,** which are geographically distinct.
  - The African lineage primarily infects monkeys and apes, with humans as secondary hosts.
  - The Asian lineage primarily affects humans.

- **Occurrence:** The mosquito-borne virus first identified in Uganda in 1947 in a **Rhesus macaque monkey** followed by evidence of infection and disease in humans in other African countries in the 1950s. Since 2007, Zika outbreaks have been recorded in Africa, the Americas, Asia and the Pacific.

- There is no **specific treatment available** for Zika virus infection.

Zika virus is transmitted primarily by Aedes mosquitoes - the same mosquito that transmits **dengue and chikungunya**

1 A mosquito bites an infected person and becomes infected

2 The infected mosquito bites and infects a healthy person

3 Infected person passes Zika to other mosquitoes

4 More members in the community become infected

TRANSMISSION

- Zika virus is primarily transmitted by **infected Aedes aegypti mosquitoes** in tropical and subtropical regions.
  - Aedes mosquitoes usually bite during the day. These mosquitoes **also transmit dengue, chikungunya and urban yellow fever.**

- Zika virus is also **transmitted from mother to foetus** during pregnancy, as well as through sexual contact, transfusion of blood and blood products, and possibly through organ transplantation.

COMPLICATIONS

- **Zika virus infection during pregnancy is a cause of microcephaly** and other congenital malformations in the infant, including limb contractures, high muscle tone, eye abnormalities and hearing loss. **These clinical features are collectively referred to as congenital Zika syndrome.**
  - **Microcephaly is a birth defect** in which babies are born with a smaller than usual head and underdeveloped brain.

- Zika infection in pregnancy can also cause complications such as **foetal loss, stillbirth and preterm birth**.

- Zika virus infection can also cause **Guillain-Barré syndrome,** neuropathy and myelitis, particularly in adults and older children.
  - Guillain-Barré syndrome is a **serious** autoimmune **disorder** that affects the peripheral nervous system.
  - The syndrome affects the nerves responsible for muscle movement, pain, temperature, and touch sensations.
  - It initially presents weakness, tingling, and numbness in the limbs, which can progress to **paralysis** lasting 6-12 months or longer.

DENGUE
#DISEASES

PRIMARY SOURCE The Indian EXPRESS

*With the onset of monsoon and flooding in Delhi-NCR, the city has reported more dengue cases in 2024 as compared to the previous five years. However, the figure can be attributed to **better reporting,** including from private laboratories.*

DENGUE DISEASE

- Dengue is a **viral illness** caused by the **dengue virus**, which is an **RNA virus** from the Flavivirus genus. Dengue is more common in tropical and subtropical regions.

- **Transmission:**
  - The virus is primarily transmitted to humans through the bites of infected **Aedes aegypti mosquitoes.**
  - There is **no evidence** that dengue can be transmitted directly from person to person through casual contact, coughing/sneezing, or sexual contact.
  - Rare cases of **vertical transmission** (from mother to child during pregnancy or childbirth) have been reported, but this is not a common mode of spread.

- **Symptoms:** Flu-like symptoms, including high fever, severe headache, joint and muscle pain, and rash. In severe cases, dengue can lead to dengue haemorrhagic fever (DHF) which can be life-threatening.

- **Treatment:** There is **no specific treatment or vaccines** available for dengue, only supportive care. The primary public health focus for controlling dengue is on **mosquito population control and preventing mosquito bites**.

- **Threat:** In 2019, WHO identified dengue to be one of the top 10 global health threats. It causes **significant morbidity and mortality** across the globe; India witnesses 2 to 2.5 lakh dengue cases annually.

NIPAH VIRUS

#BIOLOGY & BIOTECHNOLOGY

PRIMARY SOURCE | THE HINDU

An incident of death was reported in Kerala due to the Nipah Virus infection.

ABOUT NIPAH VIRUS (NiV):

- **About:** Nipah virus (NiV) is a **single-stranded RNA virus**. The genetic material of Nipah virus is composed of RNA rather than DNA.

- **Transmission:** Nipah virus is a **zoonotic disease** that can be transmitted to humans through direct contact with infected animals, especially bats and pigs. Nipah virus infection can be transmitted through contaminated food or directly from person to person.

- **Natural Reservoir:** Fruit Bats (also known as flying foxes) are believed to be the natural reservoir/primary carriers of the Nipah virus.
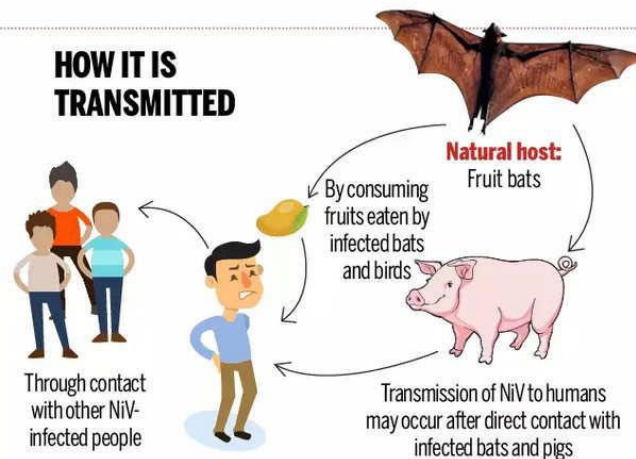
- **Symptoms:**
  - Fever, muscle pain, and respiratory problems (similar to that of influenza).
  - Inflammation of the brain as well as late onset of Encephalitis can also occur.
  - The case fatality rate is between 65 percent and 100 percent.

- **Treatment:** NiV is on the top-10 priority list of pathogens identified by the World Health Organisation. Currently, there are **no approved vaccines available against NiV**.

PRACTICE QUESTIONS

MCQS

Q1. 'OSIRIS-APEX Mission', sometimes in news, is related to which of the following?

(a) Sample return mission from Moon

(b) Anti-satellite missile test

(c) Observation mission to asteroid Apophis

(d) Exploration mission to Saturn's Moon

Q2. Consider the following statements with reference to Chandipura virus (CHPV) infection:

1. The virus primarily infects children below the age of 15 years.
2. The infection has largely remained endemic to the central part of India.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Q3. With reference to Zika Virus, consider the following statements:

1. The Zika virus is a double-stranded DNA virus from the Flaviviridae family.
2. The African Lineage of Zika Virus primarily affects humans.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Q4. Consider the following statements with reference to Dengue:

1. Dengue is transmitted through the bite of a female anopheles mosquito.
2. Dengue can be transmitted directly from person to person through sexual contact.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Q5. Consider the following statements with reference to Nipah Virus:

1. Flying foxes are believed to be the primary carriers of the virus.
2. The zoonotic disease can not be transmitted directly from person to person.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

DESCRIPTIVE QUESTIONS

Q1. Discuss the concept of Hyperloop technology. Highlight the potential benefits and challenges associated with its implementation.

Q2. What is Sustainable Aviation Fuel (SAF), and how can it contribute to reducing the carbon footprint of the aviation industry?

Answers: *1-c, 2-c, 3-d, 4-d, 5-a*

HISTORY, HERITAGE & CULTURE

GS PAPER (PRELIMS) & GS PAPER I (MAIN)

CM STALIN RELEASES BOOKS ON FOLK DEITIES AND FORTS OF T.N.

#RELIGIONANDCULTUREINTAMILNADU
#IMPORTANTFORTSINTAMILNADU

PRIMARY SOURCE | THE HINDU

Tamil Nadu Chief Minister M.K. Stalin on Tuesday released two books titled, **'Folk Deities of Tamil Nadu: Worship, Tradition and Custom' and 'Forts of Tamil Nadu: A Walk-Through'.**

Hero Stones of Sangam Age

FOLK DEITIES OF TAMIL NADU- WORSHIP, TRADITION AND CUSTOM

- The book on folk deities, focuses on the innumerable folk deities of Tamil Nadu.
- Some of these have a pan-regional appeal, while others are worshipped in a particular area or by certain communities and families.
- Tamil society worshipped heroes who laid down their lives for a common cause. **'Nadu Kal' (hero stones) were erected to honour those heroes.**

- **Madurai Veeran, Kaathavarayan, and Muthupattan** were raised to the status of deities for questioning existing norms of society and achieved martyrdom.

ABOUT HERO STONES

- **A hero stone (Veeragallu in Kannada and Nadukal in Tamil)** is a memorial commemorating the honourable death of a hero.
- Creating hero stones had been prevalent **since the Sangam period dating back 2600 years, and continuing until the Nayaka and post-Nayaka period to about 19th century.**
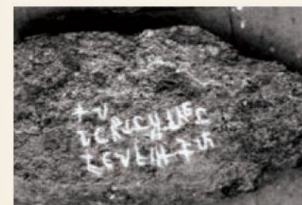

  Pulimankombai Hero stone
  Pulimankomba is a village in the Vaigai river valley in Theni district. In 2006, rare hero stone inscriptions in Tamil-Brahmi script were discovered in this village.
  One of the inscriptions from Pulimankombai reads
  "Kudalur Akol pedu tiyan antavan kal"
  It means "The stone of Tiyan Antavan who was killed in a cattle raid at the village of Kudalur".
  Hero stone-Pulimankombai

  - A vast majority were erected between **the 4th century BCE to 13th centuries CE in Tamil Nadu.**
  - The **earliest and oldest of such memorial hero stones is found in Tamil Nadu**. These hero stones are more **than 2400 years old, i.e., 4th century BCE.**
  - A hero stone dating to the **8th century Pandya kingdom, with a Tamil inscription in the Vatteluttu script was discovered in Tamil Nadu.**

- Usually they are in the form of a stone monument and **may have an inscription at the bottom with a narrative of the battle.**
- **Literary works of ancient Tamil Nadu** like the **Tolkappiyam, Ahananuru, Purananuru, Malaipadukadam and Pattinappalai,** specifically describe the hero stones which were planted in honour of men who performed some daring acts to protect their community or village.

o The four primitive hero-stones with Tamil Brahmi inscriptions, **datable to third to second centuries BCE** found in the upper part of the **Vaigai valley, support the authenticity of the hero stone tradition** described in the Sangam Tamil literature in the **context of cattle raids.**

FORTS OF TAMIL NADU:

- The book documents the past glory of several forts in Tamil Nadu through essays.

- Many such structures have existed in the State for centuries.

- These forts structures have been the site of political discourse, military prowess, foreign diplomacy and global trade.

- **The book features forts such as, St. George in Chennai, Gingee, Vellore, Dindigul etc.**

THANGKA ART

#CULTURE #RELIGIOUSPAINTINGS
#SCROLLPAITINGS #THANGKA

PRIMARY SOURCE | THE HINDU

The Thangka painting is a work of art and also a matter of cultural identity for the Tibetans residing in Majnu Ka Tila, Delhi. The traditional Thangkas are usually small in size and many of the original ones came in sets or as a series of narrative mythological scenes.

ABOUT THANGKA ART

Origin and history:

- Tibetan Buddhist painting developed from widespread traditions of early Buddhist paintings which now only survive in a few sites such as the **Ajanta Caves in India and the Mogao Caves in China.**

- **The thangka form developed alongside the tradition of Tibetan Buddhist wall paintings,** which are or were mostly in monasteries.

o The early history of the art form is more easily traced through these murals, which survive in greater numbers.

FEATURES

- **It is a Tibetan Buddhist painting on cotton, silk applique,** usually depicting a Buddhist deity, scene, or *mandala.*

- Thangka means *'thing that one unrolls',* which means unframed painting rolled up after completion. These paintings are usually called unframed.

- The most common is a **loosely woven cotton produced in widths from 40 to 58 cm (16 - 23 inches).** While some variations do exist, thangkas wider than 45 cm (17 or 18 inches) frequently have seams in the support.

- The paint consists of **pigments in a water-soluble** medium **of animal glue.** Both mineral and organic pigments are used.

- Commonly painted by **Holy lamas or Buddhist monks.**

  o The intricate pieces depict the life story of Buddha or other Buddhist deities and influential Lamas and serve both as devotional objects and teaching tools.

  o Most thangkas were intended for personal meditation or instruction of monastic students.

  o A central deity is often surrounded by other identified figures in a symmetrical composition.

  o **Narrative scenes are less common, but do appear.**

  o One important subject is the *Wheel of Life (Bhavachakra), which is a visual representation of the Abhidharma teachings (Art of Enlightenment).*

- **Two largest thangkas** are displayed at **Potala Palace in Tibet,** which also holds a collection of 10,000 Thangka paintings dates back to 300 years.

THANGKA PAINTING IN INDIA

- **Thangkas were painted in all the areas where Tibetan Buddhism flourished,** which included *Mongolia, Ladakh, Sikkim, and parts of Himalayan India in Arunachal Pradesh,* Dharamshala, and *Lahaul and Spiti district in Himachal Pradesh.*

- Thangka paintings of **Himalayan North-East Zone** are a sacred form of art maintained and preserved by the local Buddhist.

- Thangka paintings are reliable source of information and pillar of Buddhism.

- Tibetan Thangkas have depiction of Rinpoche and Dalai Lama whereas *Sikkimese thangkas have depiction of Chogyal or last King of Sikkim along with Rinpoche and Monks.*

Though Thangka art has also been influenced by industrialisation, commercialisation and mass production, it has not impacted the traditional production method unlike India's Madhubani art, which has seen a decline in quality due to adoption of non-traditional colour schemes.

UDAYAGIRI-KHANDAGIRI CAVES

#CAVEARCHITECTURE #JAINROCKCUTCAVES #JAINISM

PRIMARY SOURCE | The Indian EXPRESS

*The President of India, Droupadi Murmu visited **Udayagiri caves, situated in Bhubaneswar, Odisha.***
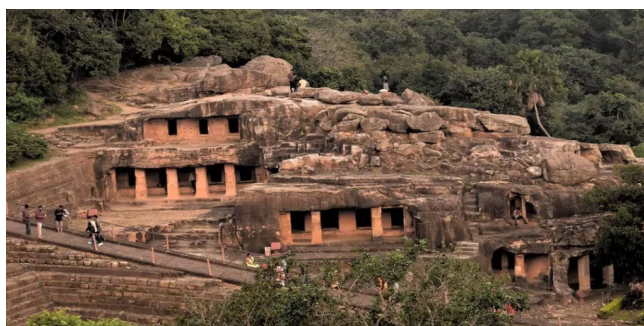
(Udayagiri-Khandagiri caves)

ABOUT UDAYAGIRI AND KHANDAGIRI CAVES

- The caves are situated on two adjacent hills, **Udayagiri and Khandagiri mentioned as Kumari Parvata in the Hathigumpha inscription.**

- They have a number of finely carved caves **built during the 1st century BCE.**

- Most of these caves were carved out as **residential blocks for Jain ascetics during the reign of King Kharavela.**

  o **Kharavela was a monarch of Kalinga in present-day Odisha,** who ruled during the second or first century BCE.

  o The **kingdom of Kalinga was invaded by Ashoka in 262-261 BCE.**

  o The **Hathigumpha inscription implies** that Kalinga regained its independence from the Maurya Empire sometime after Ashoka's death.

  o **Kharavela was born in an independent Kalinga.**

- The rock cutting activities continued **till the time of the Somavamsis of tenth-eleventh century A.D.**

- Most of the caves consist of a row of cells with portion opening into courtyard. The door way of cells has pilasters on either side with crowning animal figures and arches, decorated with flowers, creepers and animal motifs.

- **Udayagiri means has 18 caves while Khandagiri has 15 caves.**

- The caves of Udayagiri and Khandagiri **are called called lena or leṇa in the inscriptions.**

- The most important **was Ranigumpha in Udayagiri which is a double storeyed monastery.**

- **Other important caves** include *Hathi Gumpha, Ananta Gumpha, Ganesha Gumpha, Jaya Vijaya Gumpha, Mancapuri Gumpha, Bagha/ Vyaghra Gumpha and Sarpa Gumpha.*

- The Caves are also listed as one of the **Adarsh Smarak Monument by Archaeological Survey of India.**

  o Under Adarsh Smarak initiative, the selected places are provided with additional facilities like wi-fi, cafeteria, interpretation centre, Braille signages and illumination among other things.

  o **The scheme was launched in 2014** for providing improved visitor amenities, especially for the physically challenged.

SOME IMPORTANT CAVES AT UDAYAGIRI

(Rani Gumpha)

RANI GUMPHA 'CAVE OF THE QUEEN'

- Rani Gumpha is the **largest and most popular cave among the caves of Udayagiri and Khandagiri.**
- This cave is double storeyed.
- The upper portion of the central wing has relief images depicting the victory march of a king.
- **Many of the cells have carved Dwara Pala images.**

(Mancapuri and Swargapuri)

MANCAPURI AND SWARGAPURI GUMPHA

- Mancapuri and Swargapuri Gumpha is double storeyed.
- Manchapuri cave depicts two male and two female figures worshipping the **Kalinga Jina that Kharavela brought back from Magadha.**
  - **Kalinga Jina had been taken away from Kalinga by Mahapadmananda** and its **restoration was considered to be a great achievement of Kharavela.**
- **There are three inscriptions:** one inscription talks about the **chief queen of Kharavela,** and the *other* two *refer to Kudepasiri, the successor of Kharavela and Badukha, the son or brother of Kudepasiri.*
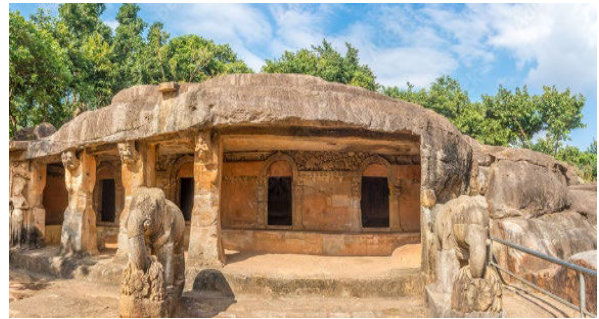
(Ganesha Gumpha)

GANESHA GUMPHA

- The cave is named for the **carved figure of Ganesha on the back of its right cell. It would have been carved in the later period.**
- The carved figures of **Dwara Palas are found at the entrances.**

(Hathigumpha-1st image; Incription-2nd Image)

HATHIGUMPHA

- It is a **large natural cave** with an inscription carved **out in Brahmi Script by King Kharavela which is the main source of information about him.**
- The cave is known as **Hathi Gumpha due to its exquisite carvings of elephant.**

'MOIDAMS' INSCRIBED IN THE WORLD HERITAGE LIST

#HERITAGESITES #UNESCO #BURIALSYSTEM #AHOMDYNASTY

The Charaideo Moidams, a unique 700-year old mound-burial system of the Ahom dynasty from Assam, was

officially inscribed on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List, becoming the 43rd property from India to be included in the prestigious index. The announcement was made at the ongoing 46th session of the World Heritage Committee being held in New Delhi.

ABOUT UNESCO WORLD HERITAGE SITES

- World Heritage Sites are exceptional cultural and/or natural locations recognized for their outstanding universal value, as designated by the World Heritage Committee. They stand as exemplars of the world's most significant cultural and natural heritage.

WORLD HERITAGE CONVENTION

- **Recognizing the importance of certain places, UNESCO's General Conference adopted the World Heritage Convention in 1972.** This convention harmoniously combines the preservation of both natural and cultural sites.

- Nations adhering to this convention form an international community committed to safeguarding these unique sites.

- **In 1994, the World Heritage Committee adopted a Global Strategy** to promote a balanced and representative World Heritage List, ensuring underrepresented regions and categories are included.

HOW SITES ARE CHOSEN

- Countries that sign the World Heritage Convention pledge to protect their cultural and natural treasures and become state parties.

- State parties create a list of potential sites from which they nominate candidates for inclusion on the World Heritage List.

- Nominations, accompanied by comprehensive conservation plans, are submitted to the UNESCO World Heritage Centre.

- **Outstanding Universal Value (OUV):** OUV is a fundamental criterion for World Heritage Site status. Exceptional, unparalleled sites with global significance are deemed outstanding properties.

UNESCO WORLD HERITAGE CENTRE

- The UNESCO World Heritage Centre offers support for the nomination process, including documentation and formatting.

- After reviewing the submitted documents, it forwards them to advisory bodies.

ADVISORY BODIES: TECHNICAL EXPERTISE

Three advisory bodies provide technical input on nominations:

- International Council on Monuments and Sites (ICOMOS)

- World Conservation Union (IUCN)

- International Centre for Study of The Preservation and Restoration of Cultural Property (ICCROM)

THE DECISION-MAKING BODY: WORLD HERITAGE COMMITTEE

- **Comprising 21 members elected for six-year terms, the World Heritage Committee is chosen by the General Assembly.**

- The committee annually determines which sites will be inscribed on the World Heritage List.

CRITERIA FOR OUTSTANDING UNIVERSAL VALUE (OUV)

- OUV must reflect a masterpiece of human creativity.

- It should depict the exchange of cultural values across generations.

- Testimony to unique traditions, cultures, or civilizations is crucial.

- Architectural ensembles, landscapes, and other built elements may contribute.

- Sites can illustrate the interaction between humans and the environment.

- Areas of extraordinary natural beauty are eligible.

- Sites can also testify to Earth's geological history.

THE WORLD HERITAGE FUND

This fund offers financial support to state parties, drawing contributions from both private donors and state parties. It aids in:

- Preparatory assistance for property nominations and management plans.

- Training assistance for personnel.

- Technical cooperation, providing expertise and material support.

- Emergency assistance for damage caused by natural disasters or human activities.

- Promotional and educational assistance to raise awareness.

ABOUT MOIDAMS

Introduction:

- The **nomination dossier for the Moidams** was sent more than a decade ago and is presently on the **tentative list of UNESCO World Heritage Site**, which is the first step towards the monument becoming a part of the final list.

- **The Tai-Ahom clan upon their migration from China** established their capital in different parts of the Brahmaputra River Valley between **12th to 18th CE**.
  - **The Ahom or Tai-Ahom is an ethnic group,** presently in Indian states of Assam and **Arunachal Pradesh.**

- **Siukapha/Sukaphaa,** established the **first capital of the Ahoms at the foothill of Patkai hills** and named it **Cheraidoi or Charaideo.**

- While the clan moved from city to city, the **landscape of Cheraideo** continued to retain its position as most sacred, **where the Royals used to be buried after death.**

- Their unique system of vaulted mounds **continued for 700 years**, *till many Tai-Ahoms converted to Buddhism while others adopted the Hindu system of cremation.*

- **The property and Buffer zones around Cheraideo** are jointly protected and managed jointly by the **Archaeological Survey of India and the State Department of Archaeology** under the **Ancient Monuments and Sites Remains Act 1958** (Amended in 2010) and by the Assam Ancient Monuments and Records Act 1959 respectively.

SIGNIFICANT FEATURES OF MOIDAMS

- **The Mound-Burial System of the Ahom Dynasty** are a sacred landscape in eastern Assam, with more than *ninety burial mounds established by the* Tai-*Ahom over 700 years ago.*

- **The moidams of Charaideo** contain the remains of the Tai-Ahom kings. They are set within a sculpted landscape that reflects Tai cosmologies.

- **Moidams are vaulted chamber (chow-chali),** often double storied entered through an arched passage.

- On the top of the the hemispherical mud-mound, **layers of bricks and earth is laid**, where the base of the mound is reinforced.

- Excavation shows that **each vaulted chamber has a centrally raised platform where the body was laid.**

- Several objects used by the **deceased during his life, like royal insignia, objects made in wood or ivory or iron, gold pendants, ceramic ware, weapons were also buried.**

- The cremation rituals of the Royal Ahoms were conducted with grandeur, reflecting their hierarchy.

- **The Changrung Phukan (canonical text developed by the Ahoms)** records the materials used to construct a Moidam.
  - There is a great variety in materials and systems of **construction** used in building a moidam.
  - From the period between **13th CE to 17th CE**, **wood was used as the primary material** for construction whereas **18th CE** onwards **stone and burnt bricks** of various sizes were used for the inner chambers.

o **Boulders of different sizes, broken stones, bricks, and broken brick** were used to construct the **superstructure**, whereas **large stone slabs were used for the sub-substructure.**

The Mound-Burial System of the Ahom Dynasty are an outstanding example of a Tai-Ahom necropolis (an extensive and elaborate burial place) that represents tangibly the Tai-Ahom funerary traditions and associated cosmologies.


ABOUT TAI-AHOM KINGDOM

- The Ahom kingdom (1228–1826) was a late medieval kingdom in the Brahmaputra Valley (present-day Assam).

- **Established by Sukaphaa, a Tai prince** from present-day Yunnan Province, China.

- The Ahom dynasty created a **new state by overpowering the older political system of the bhuiyans (landlords).**

- **By the 16th century,** the Ahom empire expanded their influence and built a large state.

- The Ahom empire followed a **monarchical system of governance.**

- **The kingdom became weaker with the rise of the Moamoria rebellion,** and subsequently fell to repeated Burmese invasions of Assam.

- With the defeat of the Burmese after the First Anglo-Burmese War and **the Treaty of Yandabo in 1826, control of the kingdom passed into East India Company hands.**

SHIVAJI'S 'WAGH NAKH' FROM U.K. TO BE DISPLAYED IN SATARA

#MARATHAS #MODERNHISTORY #SHIVAJI #PERSONALITY

PRIMARY SOURCE | THE HINDU

*The **iconic wagh nakh or tiger claws used by Maratha king Chhatrapati Shivaji Maharaj** was brought to India from London. The weapon was brought to Mumbai from the Victoria and Albert Museum to commemorate the **350th anniversary of the famed Maratha ruler's ascension to the throne.***
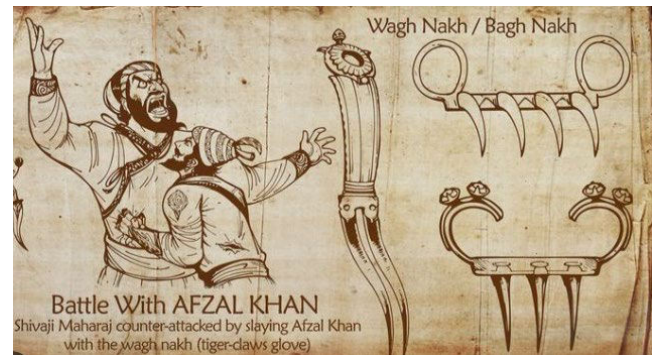
ABOUT THE 'WAGH NAKH'

- Literally 'tiger claws', the wagh nakh is a medieval claw-like dagger which was used across the Indian subcontinent.

- It was a weapon used for personal defence or stealth attack.

- **It is believed that the 'wagh nakh' was used by Shivaji to kill Bijapur Sultanate's general Afzal Khan in 1659.**

  o Afzal Khan was a general of **Bijapur's Adil Shahi Sultanate.**

  o Shivaji used to be a **former vassal of the Adil Shahis but by the 1650s,** he had become increasingly assertive, taking forts across the Konkan, and bringing under **control** large areas of Adil Shahi territory.

  o Given Afzal Khan's success in the south, he was sent by the Sultan, with a mighty army, to subdue the Maratha icon.

  o **As per historical accounts, the Maratha ruler killed Afzal Khan at the foot of Pratapgarh Fort** in the present-day Satara district of **Maharashtra**.

  o In the **Battle of Pratapgarh, the Marathas defeated the Adilshahi forces**. The killing was a turning point in history as it helped Shivaji to establish the Maratha Empire's rule.

HOW DID CHHATRAPATI SHIVAJI MAHARAJ'S WAGH NAKH REACH LONDON?

- According to the Victoria and Albert Museum's website, the weapon was brought to Britain by East India Company officer **James Grant Duff (1789- 1858).**

- Duff was the Company Resident (political agent) of the Satara State from 1818-22. He was also an historian, writing the 'A History of the Mahrattas (1826)'.

- The **last Peshwa (Prime Minister) of the Marathas, Baji Rao II,** surrendered to the British in June 1818 after defeat in the Third Anglo-Maratha War.

  o He was banished to Bithoor near Kanpur.

  o **It is believed that he surrendered this weapon to Grant Duff.**

Marathas — Kingdom of Shivaji

Map not to scale

INTRODUCTION

- The Marathas played a pivotal role in the decline of Mughal power in India.

- Under the dynamic leadership of Shivaji, they posed a formidable challenge to the Mughal Empire in the 1670s.

- By the mid-18th century, they had successfully displaced Mughal authority in central India.

- **In 1674, the Maratha General Venkoji, Shivaji's half-brother, led an invasion of Thanjavur, ending** Nayak rule and establishing Maratha dominance in the Tamil region.

- **This Maratha rule in Thanjavur continued until the death of Serfoji II in 1832.**

EARLY LIFE OF SHIVAJI

- Shivaji (1627–1680) was born in Shivner near Junnar to Shahji Bhonsle and Jijabai.

- **Shahji was a descendant of the Yadava rulers of Devagiri on his mother's side and the Sisodias of Mewar on his father's side.**

- **Shahji served under Malik Ambar, a prominent Abyssinian minister of Ahmed Shah of Ahmednagar.**

- Following Malik Ambar's death, Shahji played a crucial role in Ahmednagar's politics before entering the service of the Sultan of Bijapur after Ahmednagar's annexation by the Mughals.

- Shivaji and his mother were **placed under the care of Dadaji Kondadev, who managed Shahji's jagirs at Poona.**

- Shivaji earned the trust of **the Mavali peasants and chiefs,** familiarizing himself with the hilly terrain around Poona.

- He was also influenced by religious leaders **Ramdas and Tukaram, with Ramdas being regarded as his spiritual guru.**

MILITARY CONQUESTS

- In 1646, he **captured the fortress of Torna from the Sultan of Bijapur, followed by the fort of Raigad**, which he rebuilt.

- After the death of Dadaji Kondadev in 1647, Shivaji took control of his father's jagirs and several forts, including **Baramati, Indapura, Purandhar, and Kondana.**

- Despite a temporary lull in military activities due to his father's imprisonment by the Sultan of Bijapur, Shivaji resumed his campaigns in 1656, **capturing Javli and constructing the fort of Pratapgarh.**

CONFLICT WITH BIJAPUR

- Following the death of Mohammad Adilshah of Bijapur in 1656, **Shivaji and the Bijapur Sultan made peace with Aurangzeb, who was engaged in a war of succession in Delhi.**

- Taking advantage of Aurangzeb's absence, Shivaji invaded north Konkan and captured key cities and forts.

- **In 1659, Bijapur's Sultan sent Afzal Khan with a large army to subdue Shivaji.**
- However, Shivaji out maneuvered Afzal Khan and his forces, **capturing the fort of Panhala and securing his recognition as the ruler of his territories.**

CONFLICT WITH THE MUGHALS

- Aurangzeb, who became Emperor in 1658, **appointed Shaista Khan as Governor of the Deccan to crush Shivaji.**
- Shivaji responded by launching a daring attack on Shaista Khan's residence in Poona in 1663, forcing Aurangzeb to recall him.
- **In 1664, Shivaji attacked and plundered Surat, a major Mughal port.**
- In response, Aurangzeb dispatched **Raja Jai Singh** to defeat Shivaji, leading **to the Treaty of Purandar in 1665**, where **Shivaji ceded his forts and agreed to serve as a mansabdar.**

SHIVAJI'S VISIT TO AGRA AND RENEWED HOSTILITIES

- Persuaded by Jai Singh, Shivaji visited the Mughal court in Agra in 1666 but was humiliated and briefly imprisoned.
- Upon his escape, **Shivaji resumed his military** campaigns**, reclaiming lost forts and sacking Surat again in 1670.**
- He also **imposed a chauth, or tribute, on Surat.**

CORONATION

- In 1674, Shivaji was crowned at Raigad.
- He assumed the title of 'Chhatrapathi' (supreme king).

DECCAN CAMPAIGNS

- In 1676, Shivaji began his career of conquests in the south.
- A secret treaty was signed with the Sultan of Golkonda.
- Shivaji promised him some territories in return for his support.
- **He captured Senji and Vellore and annexed the adjoining territories which belonged to his father, Shahji.**
- He allowed **Venkoji or Ekoji to carry on administering Thanjavur**.
- The Nayaks of Madurai promised a huge amount as tribute.
- The Carnatic campaigns added glory and prestige to Shivaji.

- **Senji, the newly conquered place, acted as** the **second line of defence for his successors.**

ADMINISTRATION:

Central administration:

- Shivaji established a robust system of administration that was deeply influenced by the Deccan style, particularly drawing inspiration from Malik Amber's reforms in Ahmednagar.
- As the supreme head of the state, Shivaji held ultimate authority, but he was supported by a council of eight **ministers known as the 'Ashtapradhan'.**
- Among these ministers, the **Peshwa (also referred to as the Mukhya Pradhan)** was initially the head of the advisory council, playing a crucial role in assisting Raja Shivaji in governance.

Revenue administration:

- Shivaji made significant reforms in revenue administration by **abolishing the Jagirdari System and introducing the Ryotwari System, which emphasized direct relationships between the state and the cultivators.**
- He also redefined the roles of hereditary revenue officials, such as Deshmukhs, Deshpandes, Patils, and Kulkarnis, ensuring stricter supervision over the Mirasdars, who held hereditary rights in land.
- **The revenue system was modeled after Malik Amber's Kathi system, where each piece of land was measured using a Rod or Kathi.**
- In addition to land revenue, Shivaji introduced two significant levies: Chauth and Sardeshmukhi.
  - **Chauth, accounting for one-fourth of the revenue,** was essentially protection money paid to the **Marathas** to avoid raids by Shivaji's forces in non-Maratha territories.
  - **Sardeshmukhi was an additional levy of 10% imposed on areas** outside the Maratha kingdom.

Military administration:

- Shivaji organized a well-disciplined and efficient military force that became a cornerstone of his administration.
- The ordinary soldiers in his army were paid in cash, while the chiefs and military commanders were compensated through Jagir grants (known as Saranjam or Mokasa).
- His army was composed of three main divisions:

o **Infantry (Mavali foot soldiers)**

o **Cavalry (horse riders and equipment holders)**

o **Navy**

Shivaji's last years were troubled by his eldest son Sambhaji's rebellion. He died in 1680, leaving behind a kingdom that spanned the Western Ghats, Konkan, and parts of Karnataka, although some southern provinces were still unsettled at the time of his death.

PROJECT PARI

#CULTURE #POLICIES #PROTECTINGHERITAGE #ARTFORMS

PRIMARY SOURCE pib

*The **Ministry of Culture, Government of India,** on the occasion of the **46th Session of the World Heritage Committee Meeting,** hosted by India for the first time, has initiated **Project PARI (Public Art of India).** The session of the World Heritage Committee is being held at the **Bharat Mandapam International Exhibition and Convention Centre (IECC), New Delhi.***

नई दिल्ली, भारत
21-31 जुलाई, 2024

New Delhi, India
21-31 July, 2024

New Delhi, Inde
21-31 juillet, 2024

सह नौ यशः

- **The logo of the 46th World Heritage Committee** meeting is inspired by the World Heritage Site of **Hampi (Karnataka).**

- The stone chariot from the **Vijaya Vitthala Temple** is a testament to India's architectural grandeur and sculptural prowess.

- The **tagline of the logo** is *"सह नौ यशः which means in English as May our Glory Grow".*

- The tagline has been derived from the ancient Sanskrit scripture *'Taitiriya Upanishad'* which is the testament to our ancestor's wish of growth to one and all.

ABOUT WORLD HERITAGE COMMITTEE:

- It is a committee of the **United Nations Educational, Scientific and Cultural Organization** that selects the sites to be listed as **UNESCO World Heritage Sites**, including the World Heritage List and the List of World Heritage in Danger, defines the use of the World Heritage Fund and **allocates financial assistance upon requests from States Parties.**

- It comprises representatives from **21 state parties, that are elected by the General Assembly of States Parties for a four-year term.**

- These parties vote on decisions and proposals related to the World Heritage Convention and World Heritage List.

- The World Heritage Committee meets **once a year** for an ordinary session to discuss the management of existing World Heritage Sites, and **accept nominations by countries.**

ABOUT PROJECT PUBLIC ART OF INDIA (PARI):

INTRODUCTION

- Public art spaces of India are a reflection of our Lok Kala and Lok Sanskriti. Public Art is very dynamic and is an intersection of past, present, and future.

- The art form which is freely accessible to the public, attracts not only attention but even thoughts begin to gather as to why this work of art is here, what is its uniqueness, what material it is made up of, and what is the thought of the artist behind this artwork.

- **Thus, making it open to various interesting interpretations.**
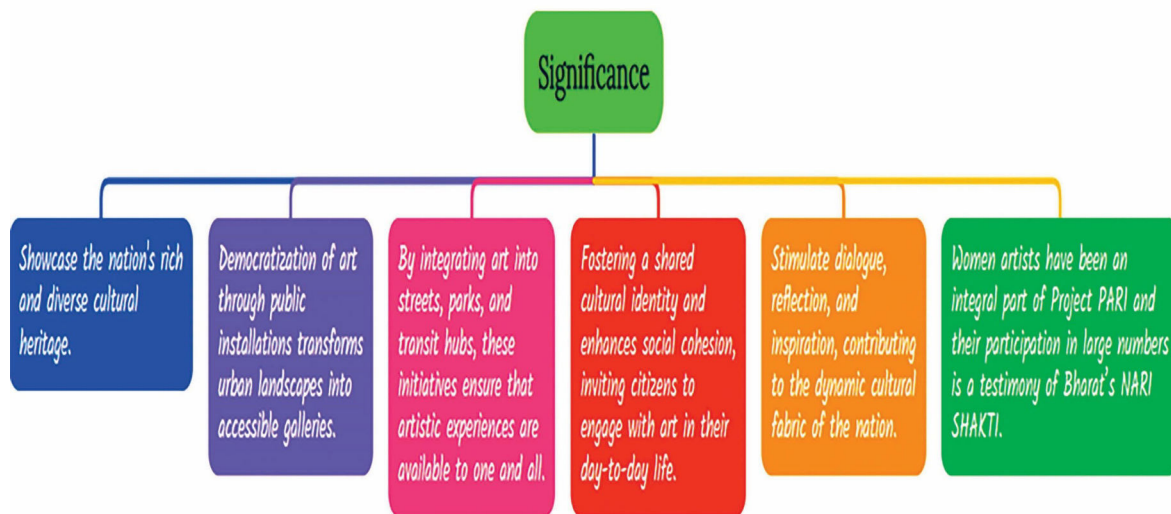
PROJECT PAR

- **The Lalit Kala Akademi, an autonomous institution under the Ministry of Culture,** has invited more than 150 visual artists from all over the country.

- The aim is to provide a platform to uplift the aesthetic and cultural outlook of Delhi while adding grandeur to the rich historical legacy of our national capital.

- **Lalit Kala Akademi and the National Gallery of Modern Art** seek to bring forth public art that draws inspiration from millennia of artistic heritage *(lok kala/lok sanskriti)* while incorporating modern themes and techniques.

- These expressions underscore the intrinsic value that art holds in Indian society, serving as a testament to creativity and artistic expression.

- The proposed sculptures being created for Project PARI include wide-ranging ideas such as *paying tributes to nature, ideas inspired by the Natyashastra, Gandhi ji, toys of India, hospitality, ancient knowledge, Kalpataru-the divine tree, etc.*

- Furthermore, in sync with the proposed 46th World Heritage Committee Meeting, some of the artworks and sculptures draw inspiration from *World Heritage Sites such as Bhimbetka and the 7 natural World Heritage Sites in India find a special place in the proposed artworks.*

Significance

| Showcase the nation's rich and diverse cultural heritage. | Democratization of art through public installations transforms urban landscapes into accessible galleries. | By integrating art into streets, parks, and transit hubs, these initiatives ensure that artistic experiences are available to one and all. | Fostering a shared cultural identity and enhances social cohesion, inviting citizens to engage with art in their day-to-day life. | Stimulate dialogue, reflection, and inspiration, contributing to the dynamic cultural fabric of the nation. | Women artists have been an integral part of Project PARI and their participation in large numbers is a testimony of Bharat's NARI SHAKTI. |

THE ART FORMS SHOWCASED

- Traditional art forms as well as sculptures, murals, and installations have been created under this beautification project.

- **The creative canvas includes but is not limited to artwork inspired by and /or drawn in styles of:**

  o *Phad paintings* (Rajasthan); *Thangka painting* (Sikkim/Ladakh); *Miniature painting* (Himachal Pradesh); *Gond art* (Madhya Pradesh); *Tanjore paintings* (Tamil Nadu); *Kalamkari* (Andhra Pradesh); *Alpona art* (West Bengal); *Cheriyal painting* (Telangana); *Pichhwai Painting* (Rajasthan); *Lanjia Saura* (Odisha); *Pattachitra* (West Bengal); *Bani Thani Painting* (Rajasthan); *Warli* (Maharashtra); *Pithora Art* (Gujarat); *Aipan* (Uttarakhand); *Kerala Murals* (Kerala); *Alpana art* (Tripura) and more.

1. Phad paintings (Rajasthan):

- Phad painting is a traditional Rajasthani scroll painting style that dates back over 700 years.

- **The Bhopas, the priest-singers traditionally** carry the painted phads along with them and use these as the mobile temples of the folk deities, who are worshipped by the Rebari community of the region.

- These paintings are created on long pieces of cloth, known as Phad, and depict epic narratives of local deities like Pabuji and Devnarayan.

- They use vibrant colors made from natural sources and are often accompanied by performances of the epic stories by local bards.

2. Thangka painting (Sikkim/Ladakh):

- Thangka paintings are traditional Tibetan Buddhist paintings on cotton or silk, originating from the Himalayan regions, particularly Sikkim and Ladakh. These paintings depict Buddhist deities, mandalas, and spiritual scenes. They are highly detailed and use vibrant mineral and vegetable pigments.

3. Miniature painting (Himachal Pradesh):

- Miniature paintings in Himachal Pradesh, particularly the Pahari style, date back to the 17th century and were influenced by the Mughal school of painting.

- Characterized by their small size and intricate details, these paintings often depict themes from Indian epics, court scenes, and nature. They use natural colours and are known for their delicate brushwork.

4. Gond art (Madhya Pradesh):

- Gond art is a tribal art form of the Gond community in Madhya Pradesh. This art uses dots and lines to create images of animals, plants, and everyday life. The colors are vibrant and often derived from natural sources.

- Gond art is a representation of the Gonds' belief in nature and their reverence for the environment.

5. Tanjore paintings (Tamil Nadu):

- **Tanjore (or Thanjavur) paintings originated in Tamil Nadu during** the **reign of the Nayakas in the 16th century.**

- Known for their rich colours, surface richness, and compact composition, these paintings depict Hindu gods and goddesses. They are characterized by the use of gold foil, making them shine and glitter.

6. Kalamkari (Andhra Pradesh):

- Kalamkari is a type of hand-painted or block-printed cotton textile from Andhra Pradesh, with origins tracing back to the 17th century.

- **This art uses a bamboo pen (kalam) and natural dyes to create intricate designs. There are two styles: Srikalahasti (freehand drawing) and Machilipatnam (block printing).**

- Kalamkari art often depicts stories from Hindu mythology, especially scenes from the Mahabharata and Ramayana.

7. Alpona art (West Bengal):

- Alpona is a traditional Bengali folk-art form used for decorating floors during festivals and auspicious occasions.

- It involves drawing intricate patterns using a paste made of rice flour. The designs are often floral or geometric and are created freehand.

8. Cheriyal painting (Telangana):

- **Cheriyal paintings are a form of Nakashi art from the Cheriyal village in Telangana, with roots in the Kakatiya dynasty (12th century).**

- These are scroll paintings depicting scenes from Indian mythology and folklore. The paintings are characterized by their bright colors and use of natural pigments.

- These scrolls are used by storytellers to narrate tales, keeping alive the oral traditions of the region.

9. Pichhwai painting (Rajasthan):

- **Pichhwai paintings originated in Nathdwara, Rajasthan, in the 17th century.**

- These large-scale paintings are created on cloth and depict Lord Krishna, especially in the form of Shrinathji. They are detailed and often feature gold leaf.

10. Lanjia Saura art (Odisha):

- **Lanjia Saura art is a tribal art form from the Saura tribe of Odisha.**

- This art is characterized by its use of geometrical patterns to depict everyday life, mythology, and nature. It is similar to Warli art but distinct in its themes and execution.

11. Pattachitra (West Bengal):

- Pattachitra is a traditional cloth-based scroll painting from West Bengal, with origins in the ancient villages of the region.

- The paintings are characterized by intricate details, mythological narratives, and the use of natural colors. They often depict stories from the Ramayana, Mahabharata, and local folklore.

- **Pattachitra is closely associated with the Jagannath cult and is used in religious rituals and festivals.**

12. Bani Thani painting (Rajasthan):

- **Bani Thani is a style of painting that emerged in Kishangarh, Rajasthan, in the 18th century.**

- The style is characterized by stylized features like arched eyebrows, lotus-like elongated eyes, and pointed chin. It depicts Radha in a romanticized and idealized form, inspired by the poetess Bani Thani.

13. Warli art (Maharashtra):

- Warli art is a tribal art form practiced by the Warli tribe in Maharashtra, with origins dating back to 2500–3000 BCE.

- This art uses simple geometric shapes—circles, triangles, and squares—to depict scenes of hunting, farming, festivals, and dances. The paintings are traditionally created on mud walls using white rice paste.

- Warli art is deeply connected to nature and tribal life, and it serves as a visual record of the community's social life and rituals.

14. Pithora art (Gujarat)

- Pithora art is a ritualistic tribal painting from **the Rathwa and Bhil tribes of Gujarat.**
- The paintings are done on the walls of houses using natural colors and depict scenes of everyday life, animals, and gods. They are usually created as offerings to deities.
- Pithora paintings are **integral to the Rathwa culture** and are created during important religious and social events.

15. Aipan (Uttarakhand):

- Aipan is a traditional art form of Uttarakhand, primarily created by women.
- It involves creating intricate patterns using rice paste on a red background, typically on floors and walls during festivals and ceremonies.

16. Kerala murals (Kerala):

- Kerala murals are traditional frescoes that date back to the 9th century, found in temples and palaces across Kerala.
- These murals are known for their elaborate and vibrant depiction of Hindu mythology, using natural pigments on wet plaster.
- Kerala murals are a significant part of the state's cultural heritage and reflect its religious and artistic traditions.

17. Alpana art (Tripura):

- Alpana, similar to the Bengali Alpona, is a form of folk art practiced in Tripura.
- It involves creating floral, geometric, and symbolic patterns on the floor using a paste made from rice flour.

ABOUT LALIT KALA AKADEMI (ACADEMY)/NATIONAL ACADEMY OF ART

- It was inaugurated in New Delhi in **1954 by the then Minister for Education, Maulana Abul Kalam Azad.**
- The objective was to promote fine arts/visual arts in India. The Akademi also deals with the international arts.
- It was registered under the **Societies Registration Act 1860, in 1957.**
- It is **an autonomous body and is funded by the Union Ministry of Culture.**

- Functions through General Council, Executive Board, and other Committees, as given in the Akademi's Constitution.
- **The Chairman of the Akademi is appointed by the President of India**. The term of office for the Chairman is three years, which can be extended.
- **Main Centre:** New Delhi
- **Regional Centres:** Chennai, Kolkata, Lucknow, Shimla, Shillong and Bhubaneswar.
- **The National Art Award:** One of the awards and honours in India and Asia, awarded by Lalit Kala Akademi.

MUDRAS IN BUDDHISM

#BUDDHISM #CULTURE #RELIGION

PRIMARY SOURCE | *The Indian* EXPRESS

*'Abhaya Mudra', the **gesture depicted with raised open palm that is commonly understood as conveying reassurance and a freedom from fear** was invoked by the Leader of Opposition in his speech in Lok Sabha. **The Abhaya Mudra is a commonly associated with Buddhism, Jainism and Hinduism.***

INTRODUCTION

- It is one of the major religions of the world that originated from the Indian subcontinent and has now spread to large parts of South-east Asia.
- The origin of Buddhism is attached to the story of Siddhartha who came to be known as Buddha.
- Gautam Buddha was born at Lumbini (in present Nepal) in 563 BC as Siddhartha Gautam.
- At the age of 29, he left his house to find the truth of life and he wandered as an ascetic.
- **At Gaya (Bihar), he attained enlightenment (Nirvana) under a pipal tree and became the Buddha, the Enlightened One.**
- After attaining Nirvana, he gave his first sermon to his five companions at the Deer Park in Sarnath near

Varanasi. **This event was called Dharma-chakra-pravartana (Turning the wheel of Law).**

- Buddha attained **Mahaparinirvana at Kushinagar (Malla Mahajanapada) in Uttar Pradesh in 483 BC.**

MUDRAS IN BUDDHISM:

- In the Buddhist context, it refers to *"hand and arm gestures made during the course of ritual practice or depicted in images of buddhas, bodhisattvas, tantric deities, and other Buddhist images".*

- Mudras are most commonly associated with visual depictions of the Buddha with different gestures conveying different moods and meanings, signifying the subtle manifestations of the Buddha's states of realisation.

- **The earliest depictions of the Buddha in physical form date to roughly around the turn of the first millennium.**

- **Depictions started appearing in the Gandhara art from the northwestern edge of the Indian subcontinent** (present day Pakistan and Afghanistan), which drew on **Hellenistic influences (Greek)** and **later in the art of the Gupta period, in the Gangetic plains.**

- In the earliest depictions of Buddha, **four mudras can be found:**
  o Abhaya mudra (gesture of fearlessness)
  o Bhumisparsha mudra (Earth-touching gesture)
  o Dharmachakra mudra (gesture of the wheel of dharma)
  o Dhyana mudra (gesture of meditation).

- **With the evolution of Mahayana and Vajrayana Buddhism,** and the proliferation of Buddhist artwork outside India, hundreds of mudras entered Buddhist iconography.

ABOUT ABHAYA MUDRA

- The Abhaya mudra is described as one *'typically formed with the palm of the right-hand facing* outward *at shoulder height and the fingers pointing up and the index,*

second, or third finger touches the thumb, with the remaining fingers extended upward.

- In Buddhist tradition, the Abhaya mudra is associated with the Buddha immediately after he obtained Enlightenment, **'portraying a sense of the security, serenity, and compassion that derive from enlightenment'**

- This gesture identifies the moment when **Shakyamuni (the Buddha) tamed the mad elephant, thus, illustrating the Buddha's ability to grant fearlessness to his followers.** The elephant calmed down immediately, gone down on her knees, and bowed her head to the Buddha.

- This is why the abhaya mudra is also seen as a **'gesture of protection' or 'gesture of granting refuge'.**

OTHER MUDRAS IN BUDDHISM

DHARMACHAKRA MUDRA

- It is also called as the gesture of **'Teaching of the Wheel of Dharma'** that describes one of the most important moments in the Buddha's life as he **performed the Dharmachakra mudra in his first sermon in Sarnath after he attained enlightenment.**

- It is shown with the *help of both the hands which are held against the chest, the left-facing inward, covering the right facing outward.*

DHYAN MUDRA

- **It is also known as Samadhi or Yoga mudra.**

- It is shown with the *help of two hands which are placed on the lap and place the right hand on the left hand* with

stretched fingers (thumbs facing upwards and other fingers of both the hand resting on each other.)

BHUMISPARSA MUDRA

- This gesture is also known as **'touching the Earth'** which **represents the moment of the Buddha's awakening as he claims the earth as the witness of his enlightenment**
- It is shown with the help of *the right hand, which is held above the right knee, reaching toward the ground with the palm inward while touching the lotus throne.*

VARADA MUDRA

- **This mudra represents the offering, welcome, charity, giving, compassion and sincerity.**
- It is shown with the *help of both the hands in which palm of the right hand facing forward and fingers extended and left-hand palm placed near omphalos with extended fingers.*

KARANA MUDRA

- This gesture signifies the **warding off evil** which is *performed by raising the index and the little finger and folding the other fingers.*
- The karana mudra expels *demons* and removes obstacles such as sickness or negative thoughts.

VAJRA MUDRA

- This gesture denotes the **fiery thunderbolt that symbolizes the five elements of nature, i.e. air, water, fire, earth, and metal.**
- It is shown with the *help of right fist, left-hand forefinger, which placed by enclosing the erect forefinger of the left hand in the right fist with the tip of the right forefinger touching (or curled around) the tip of the left forefinger.*

VITARKA MUDRA

- **It signifies the discussion and transmission of the teachings of the Buddha.**
- It is shown by joining the *tips of the thumb and the index fingers together while keeping the other fingers straight,* which is just like to Abhaya Mudra and varada *mudra but in this Mudra the thumbs touching the index fingers.*

> **ABHAYA MUDRA IN HINDU RELIGION**
>
> - Over time, the Abhaya mudra appeared in depictions of Hindu deities, and **the Buddha himself was absorbed into the Hindu pantheon as the ninth avatar of the Puranic god Vishnu.**

- Hindus came to regard the Buddha as an avatar of Vishnu between *AD* 450 and the sixth century.
- The first mention of the Buddha avatar came in the Vishnu Purana (*400*-500 CE).
- As multiple traditions, practices, and cultural influences mingled in the great melting pot of the Hindu religion, manifestations were seen in art and visual depiction of gods.
- **The Abhaya mudra was seen in the depictions, most commonly of Lord Shiva, Lord Vishnu, and Lord Ganesha.**

PATRONAGE AND INFLUENCE OF BUDDHISM

- Buddhism was extensively patronized by various rulers throughout history
- Despite virtually disappearing from India for nearly a millennium, Buddhism spread far and wide, particularly in Southeast and East Asia, where it remains widely followed.

LIFE OF GAUTAMA BUDDHA

- Gautama Buddha, originally named Siddhartha, **was born into the Sakya clan** to King Suddhodhana and Queen Mahamaya.
- His birth in **Lumbini near Kapilavastu was marked by auspicious signs,** including Queen Mahamaya's dream of a white elephant with six tusks entering her womb.
- Growing up as a royal prince, Siddhartha married Yashodhara and had a son named Rahula.
- However, his life took a pivotal turn when, during a chariot ride, *he encountered an old man, a sick man, a corpse, and a mendicant.*
- Moved by the suffering he witnessed**, Siddhartha renounced his royal life, a moment known as the Mahabhinishkramana or the Great Renunciation.**
- He embarked on a spiritual journey, initially *studying* under **Alara Kalama and Uddaka Ramaputta, but found their teachings unsatisfactory.**
- Siddhartha then subjected himself to severe austerities, nearly to the point of death.
- Eventually, *he accepted a meal of rice and milk from a milkmaid named Sujata and meditated under a pipal tree in Bodhgaya.*

- After 49 days of deep meditation, at the age of 35, he attained *enlightenment* and became known as Buddha, the Enlightened One.
- **Buddha's first sermon, known as Dharmachakra-parivartana (the turning of the wheel of Dharma),** was delivered at Sarnath near Varanasi. Here, **he introduced the Four Noble Truths and the Middle Path.**
- Buddha *established* the Sangha and travelled extensively to spread his teachings.
- **At the age of 80, he attained Parinirvana in Kusinagara.**
- Prominent disciples like **Sariputta, Maha Moggallana, Mahakaccayana, and Ananda** played crucial roles in spreading his teachings.

BUDDHIST COUNCILS

- **First council (Rajgriha):** Held shortly after Buddha's death, this council was headed by Upali, who *recited* the Vinaya Pitaka, while Ananda recited the Sutta Pitaka.
- **Second council (Vaishali):** Convened a century after Buddha's death, this council saw the split of the Buddhist order into two factions: the Sthaviravadins (*Believers* in the Teachings of the Elders) and the Mahasanghikas (Members of the Great Community).
- **Third council (Pataliputra):** Convened by Emperor Ashoka, this council saw the Sthaviravadins solidify their dominance and expel heretics. The last section of the Abhidhamma Pitaka, "Kathavatthu," was added during this *council*.
- **Fourth council (Kashmir):** Held during the reign of Kanishka, this council was significant for the Sarvastivadins, *who* compiled their doctrines in the Mahavibhasa.

BUDDHIST SECTS

Over time, Buddhism diversified into several sects, including:

- **Sthaviravadins:** This sect adhered to the original teachings of Buddha.
- **Mahasanghikas:** Emphasized more liberal interpretations of the *Buddha's* teachings.
- **Sarvastivadins:** Developed new doctrines, leading to the emergence of Mahayana (Great Vehicle) and *Hinayana* (Lesser Vehicle) Buddhism.
- **Mahayana:** Became popular in India and later spread to China and Japan. Nalanda University, a major center

of Buddhist learning, was associated with this tradition. **It was known as the 'the Great Vehicle' and central to Mahayana is the concept of the Bodhisattva,** a being who seeks enlightenment not just for themselves but for all sentient beings. The Bodhisattva delays their own nirvana to help others achieve liberation.

- **Hinayana:** It was known as **'the Lesser Vehicle',** which focused on individual enlightenment. Hinayana Buddhism primarily emphasizes personal *attainment* of nirvana through rigorous discipline, meditation, and adherence to the monastic code. **The ultimate goal is to become an arhat, a person who has achieved enlightenment and is free from the cycle of birth and rebirth (samsara).**

- By the end of the Gupta period, **Vajrayana Buddhism, influenced by local cults,** emerged in Bengal and Bihar *and* spread to Tibet in the 11th century CE, with Vikramasila University in Bihar serving as an important center for Vajrayana Buddhism.

BUDDHIST LITERATURE

- Buddhist literature, primarily compiled in Pali, is categorized into the *Tripitakas* (Three Baskets):
  - **Vinaya pitaka:** Contains monastic rules and moral disciplines
  - **Sutta pitaka:** Includes discourses and teachings of Buddha, divided into five Nikayas.
  - **Abhidhamma pitaka:** Expounds on Buddhist philosophy.

- Significant *works* include the T**heragatha and Therigatha (hymns of elder monks and nuns), Jataka tales (stories of Buddha's previous births), and Milinda Panha (a dialogue between King Menander and monk Nagasena).**

- The Dipavamsa, Mahavamsa, and Culavamsa are notable Ceylonese chronicles documenting the spread of *Buddhism* in Sri Lanka.

CORE TEACHINGS

- **Four Noble truths:**
  - **Truth of suffering:** Life involves suffering, including birth, aging, and death.
  - **Truth of the origin** of **suffering:** Desire and attachment cause suffering.
  - **Truth of the cessation of suffering (Nirvana):** The cessation of desire leads to the end of suffering.
  - **Truth of the path leading to the cessation of suffering:** The Noble Eightfold Path is the way to end suffering.

- **The Eightfold path consists of:**
  - Right Views
  - Right Resolve
  - Right Speech
  - Right Conduct
  - Right Livelihood
  - Right Effort
  - Right Recollection
  - Right Meditation

- Buddhism emphasizes karma and the doctrine of rebirth.

- Achieving freedom from karma, and thus the cycle of rebirth, is the goal, attainable through the Middle Path.

- **Unlike other religions, Buddha did not explicitly address the existence of God**

- Buddhism promoted equality, non-violence (ahimsa), and moderation, advocating frugality and ethical livelihoods, which excluded trades involving *harm*, such as those in weapons, meat, or intoxicants.

DECLINE OF BUDDHISM IN INDIA

1. **Sectarian splits:** The emergence of various sects like Hinayana, Mahayana, Vajrayana, and others diluted Buddhism's original teachings.

2. **Language barrier:** The shift from Pali and Prakrit to Sanskrit after the Fourth Buddhist Council made Buddhist texts inaccessible to the common people.

3. **Loss of patronage:** Buddhism lost royal support after Harshavardhana, while the Vedic religion regained prominence under the Sungas, Guptas, and the Bhakti movement.

4. **Invasions:** The Hun invasions under leaders like Toramana and Mihirakula, who were hostile to Buddhism, dealt a severe blow to the religion.

5. **Turkish Conquests:** The Turkish invasions forced Buddhist monks to flee to Nepal, Tibet, and Sri Lanka, leading to Buddhism's decline in India.

Buddhism, despite its decline in India, left a lasting impact on the world. Its teachings, spread through missionary efforts, continue to thrive in many parts of Asia. The religion's emphasis on compassion, ethical conduct, and the quest for

enlightenment remains relevant and influential across cultures and generations.

PRACTICE QUESTIONS

MCQS

Q1. **Consider the following statements with reference to the practice of erecting 'Nadu Kal'?**

1. It has been mentioned in the Sangam work 'Ahananuru'.

2. The oldest 'Nadu Kal' memorials are found in Tamil Nadu.

3. The practice of erecting 'Nadu Kal' evolved to honour the Sangam poets.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q2. **Regarding 'Thangka art form', consider the following statements:**

1. It is usually associated with the depiction of Buddhist deities.

2. The art form originated in North Eastern region of India.

3. 'Bhavachakra' is an important subject of the Thangka art form.

Select the correct answer using the code given below:

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Q3. **Consider the following statement, with reference to the cave architecture in India:**

1. The Udayagiri-Khandagiri caves were carved out as residential blocks for Buddhist monks during the reign of Kharavela.

2. The 'Hathigumpha' inscription associated with King Kharavela is written in Brahmi script.

3. A Varaha avatar of Vishnu as he rescues goddess earth from the deep and chaotic waters is sculpted on rock cut caves of Udayagiri, Odisha.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 only

(c) 1 and 3 only

(d) 3 only

Q4. **With reference to 'Mudras in Buddhism', consider the following statements:**

1. 'Vitarka Mudra' signifies the discussion and transmission of the teachings of the Buddha.

2. The 'Abhaya Mudra' symbolizes 'warding off evil' and 'eliminating negative thoughts'.

Which of the statements given above is/are correct?

(a) 1 only   (b) 2 only

(c) Both 1 and 2   (d) Neither 1 nor 2

Q5. **With reference to the history of India, consider the following statements:**

1. 'Moidams' are the mound-burial system practiced during the period of Ahom dynasty.

2. 'Woods and Stones' were the primary materials used for the construction of Moidams.

3. The 'moidams of Charaideo' in Assam have recently been added to UNESCO's World Heritage site list.

Which of the statements given above is/are correct?

(a) 1 and 2 only   (b) 2 and 3 only

(c) 1 and 3 only   (d) 1, 2 and 3

Q6. **'Wagh Nakh', in the context of history of India, is best related to:**

(a) A royal sceptre used by Chola rulers which represented the king's role as a divine agent.

(b) A scripture related to the history of origin of Sikh state in India.

(c) Weapon used by Shivaji to kill Afzal khan in the battle of Pratapgarh.

(d) Throne of the Sikh ruler, Maharaja Ranjit Singh.

DESCRIPTIVE QUESTIONS

Q1. Examine how Shivaji's leadership extended beyond his military achievements to include significant administrative and revenue reforms. (150 words; 10 marks)

Q2. Discuss the measures undertaken by the Government of India to safeguard the nation's heritage, with particular emphasis on the significance of Project Pari. (150 words; 10 marks)

Q3. Discuss the core teachings of Buddhism. Assess their significance and relevance in the contemporary world. (250 words; 15 marks)

Answers: *1-a, 2-c, 3-b, 4-a, 5-a, 6-c*

PART TWO

ETHICS, INTEGRITY & APTITUDE

Coverage from varied sources

BUDDHIST ETHICS

GENERAL STUDIES-IV

The ethical ideas of Buddha continue to be relevant amidst the growing consumerism, conflict and chaos and climate change faced by the world today, despite 2,500 years of his passing, the ideas have spread in large parts of Asia and continue to spread across the world. There is hope that a world which imbibe the ideals of Buddha would be a better place.

About Buddhist ethics: Buddhist ethics is known as *Sīla* in Pali, it is a central component of the Buddhist path to enlightenment. It involves the cultivation of moral virtues, the development of a disciplined mind, and adherence to ethical precepts. Buddhist ethics is **not merely about following rules**; it is rooted in the understanding of **how actions, intentions, and consequences interconnect** to decide our karma and the pursuit of liberation from suffering.

THE PHILOSOPHICAL BASIS OF BUDDHIST ETHICS COMPRISES OF FOUR NOBEL TRUTHS

The truth of suffering: Suffering is everywhere, including birth, aging, sickness, death, sorrow, pain, grief, and despair.

The truth of the cause of suffering: Suffering is caused by craving for desires, which is like "thirst".

Four nobel truths

The truth of the path that leads to the end of suffering: The path to the end of suffering is the **Noble Eightfold Path**, liberation from attachment is the way to extinguish desire and end suffering.

The truth of the end of suffering: Suffering can end by purifying obscurations and awakening the mind. This state is called **enlightenment, or nirvana**, which is a state of freedom, peace, and liberation from the cycle of birth, death, and rebirth.

KEY ASPECTS OF BUDDHIST ETHICS

- **The Five Precepts (Pañca-Sīla):**
  - **Refrain from killing:** This applies to **all living beings** and emphasizes non-violence and compassion.
  - **Refrain from stealing:** Respect for others' property and honesty are central to Buddhist tenets.
  - **Refrain from sexual misconduct:** This emphasizes respect for the sanctity of relationships and sexual integrity.
  - **Refrain from false speech:** Truthfulness in speech as well as action, also, avoiding harmful speech is considered important.
  - **Refrain from intoxicants:** Avoiding substances that cloud the mind is essential for maintaining mindfulness and awareness.

- **The Ten Wholesome Actions (Dasa-Kusala-Kammapatha):**
  - These are actions that lead to positive karmic outcomes and are grouped into three categories: bodily actions, verbal actions, and mental actions.
    - **Bodily actions:** Not killing, not stealing, not engaging in sexual misconduct.
    - **Verbal actions:** Not lying, not speaking harshly, not engaging in divisive speech, and not indulging in idle chatter.
    - **Mental actions:** Not coveting, not harboring ill-will, and cultivating right understanding.

- **The Eightfold Path (Ariya-Aṭṭhaṅgika-Magga):**
  - The ethical component of the Eightfold Path, which includes Right Speech, Right Action, and Right Livelihood, serves as a guide for moral conduct. (Refer diagram)

- **Compassion and Wisdom (Karuna and Prajna):**
  - Buddhist ethics is also seen as a balance between compassion (acting with kindness towards others) and wisdom (understanding the true nature of reality). These two qualities are interdependent and together lead to ethical behavior.

- **Karma and Rebirth:**
  - Ethical conduct is closely tied to the concept of karma, where actions have consequences that shape future experiences, including rebirths. Ethical living is thus seen to generate positive karma and move closer to liberation.

- **Skillful Means (Upaya):**

  o In certain contexts, Buddhist ethics allows for flexibility through the principle of skillful means, where the intention behind an action is considered more important than the action itself, especially if it leads to a greater good or reduces suffering.

CONTEMPORARY RELEVANCE OF BUDDHIST ETHICS:

- **Personal improvement:**

  o **Controlling Materialistic Greed:** Relationship between attachment and sorrow has been discussed by Buddha, it inspires us to follow the pursuit of inner contentment, leading to **probity in public life.**

  o This virtue also addresses mindless consumerism and promote sustainable consumption envisioned in India's Mission **LIFE (Lifestyle for Environment).**
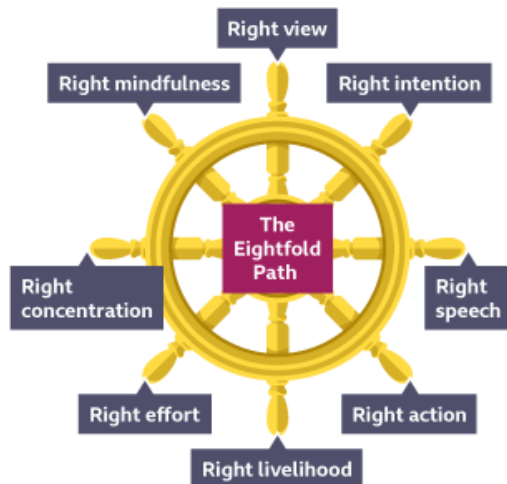
- **Compassionate Leadership and Social Welfare**

  o **Inclusive Policies:** Principle of *karuṇā* (compassion), inspires leaders to create inclusive policies that address the needs of all citizens and particularly the marginalized and disadvantaged. For instance, welfare programs aimed at poverty alleviation, healthcare, and education for underprivileged communities can be guided by the Buddhist emphasis on reducing suffering and promoting well-being.

  o **Empathy in Decision-Making:** It enables leaders to incorporate **empathy and compassion into their decision-making** processes, ensuring that policies are designed to **minimize harm and promote the collective good.** This can lead to more humane and

just governance, where the needs of the most vulnerable are prioritized.

- **Non-Violence and Conflict Resolution**

  o **Promoting Peace in Diverse Communities:** Indian subcontinent's history of communal tensions and conflicts can benefit from the Buddhist principle of *ahimsa* (non-violence). Government initiatives aimed at promoting religious tolerance, and resolving conflicts through peaceful means can be rooted in this ethical principle.

  o **Diplomacy and International Relations:** India's **foreign policy** reflect Buddhist ethics by emphasizing **non-violence and peaceful coexistence** in its international relations. India can continue to play a role in global peace initiatives, drawing on its Buddhist heritage to advocate for disarmament, conflict resolution, and cooperative diplomacy, as reflected **by DPSPs.**

- **Good Governance and Sustainable Development**

  o **Environmental Policies:** The Buddhist concept of *pratītyasamutpāda* (dependent origination) emphasizes the interconnectedness of all life, which can inspire India to adopt environmentally sustainable policies. Initiatives to combat climate change, protect natural resources, and promote sustainable agriculture can be informed by the Buddhist ethic of living in harmony with nature.

  o **Long-Term Planning:** Mindfulness (*sati*) in governance encourages leaders to consider the long-term impact of their policies. India can adopt a more forward-looking approach to planning, especially in areas like urban development, infrastructure, and resource management, ensuring that development is sustainable and benefits future generations.

- **Ethical Governance and Anti-Corruption**

  o **Transparency and Accountability:** Buddhist ethics emphasize Right Action and Right Speech, which can be translated into principles of **transparency, accountability, and citizen centricity** in governance. India can strengthen its anti-corruption measures by ensuring that government officials act with integrity and honesty. The Right to Information (RTI) Act and other transparency initiatives can be seen as aligned with Buddhist ethical principles.

○ **Reducing Corruption:** Corruption undermines public trust and hampers development. By promoting ethical behavior among public servants, India can work towards reducing corruption at all levels of government. Public servants can be encouraged to view their roles as a form of **service to society, rather than as an opportunity for personal gain.**

• **Technology interventions:** Technology like Artificial intelligence can be improved by Buddhist **ethics** interventions, principles of reduction of pain and suffering can be applied on technology to make it more human centric and the misuse of technology to surveil and suppress can be minimized.

• **Social Justice and Equality**

○ **Empowerment of Marginalized Communities:** Focus on the empowerment of marginalized communities, SC communities, Adivasis, women, and minorities, ensuring that they have **equal access to resources, opportunities, and representation.** Affirmative action policies, such as reservations in education and employment, can be viewed through the lens of Buddhist compassion and the need to redress historical injustices.

○ **Education and Awareness:** Promoting education that includes ethical teachings, including those from Buddhism, can help foster a more compassionate and just society. Educational curricula can include **moral and ethical education that emphasizes**

values such as **non-violence, compassion, and respect for all.**

• **Indian Legal System**

○ **Restorative Justice:** Elements of restorative justice, inspired by Buddhist ethics are important to bring overall peace in society. This approach focuses on rehabilitation and reconciliation rather than mere punishment. For instance, **community service, mediation, and restitution can be promoted as alternatives** as included in the new **Bhartiya Nyaya Samhita.**

• **Global Leadership in Peace and Ethics**

○ **Soft Power and Cultural Diplomacy:** India, as the birthplace of Buddhism. By promoting Buddhist ethics in international forums, India can position itself as a leader in advocating for **global peace, ethical governance,** and sustainable development. Initiatives like **the International Day of Vesak** and the revival of ancient Buddhist sites in India will help strengthen this cultural diplomacy.

○ **Promoting Buddhist Ethics in Global Governance:** India can advocate for the integration of Buddhist ethical principles in global governance, particularly in areas like climate change, human rights, conflict resolution and global disarmament. By doing so, India can contribute to the creation of a more just and compassionate global order.

Thus, Buddhist teachings are relevant not just for Indians, but for the whole world in 21st century for building a peaceful and egalitarian society.

CASE STUDIES FOR PRACTICE

MAINS GS PAPER IV

Case Study 1: The upland areas in a state remained on edge with concerns over the satellite survey for demarcation of buffer zones around protected areas running high, despite the government's efforts to allay fears about the dispossession of property and regulation of activities. Citizens turned out in large numbers in Idukki and Kottayam to submit complaints about the draft buffer zone map published by the government because their livelihood and culture would be negatively affected due to reduction in the buffer zone area. Because the forest is the sole source of livelihood for the local tribe. They also have an emotional attachment to the forest and its biological diversity. The tribe is also known as the protector of the forest and its biodiversity.

Some credible sources revealed that this sudden reduction in the buffer zone is a result of collusion between the state and the business class. Because this forest is very rich in red Sandalwood which is in high demand in the domestic as well as global market. Moreover, there is a large amount of rare earth metal which is in high demand for the rising electric-vehicle industry.

A tense situation prevailed at Angel Valley of the state, near Erumely (a place in the state), after a protest against buffer zone demarcation turned unruly, resulting in damage to public property. Forest officials filed a complaint about vandalism and threats by protesters.

Some legal experts highlighted that the controversial draft is a clear violation of rules regarding eco-sensitive zones. If this draft comes into force, then there is a high probability of not only environmental degradation but also hurting the goal of inclusive development.

Erumely panchayat decided to explore the possibility of impleading itself in the case on the buffer zone issue under the consideration of the Supreme Court. Meanwhile, Opposition political parties continued to turn the heat on the government on the issue.

Senior leader Suresh Chennithala of the opposition political party said the draft buffer zone map published by the government was riddled with errors and inaccuracies. "Supreme Court had issued directives to furnish a report after carrying out a new survey. Yet, the government has now published the report prepared in 2021 after dillydallying for seven months," he said.

Mr Chennithala said the government was bound to suffer a serious setback if it submitted the map in its present form before the top court. He accused the government of fumbling in the dark without carrying out the ground survey.

Considering this whole controversy, the state government has constituted an expert committee to investigate the matter. You are appointed as head of that team. You are an environmental expert in the same state. Your job application is pending before the government of the day. Your wife is a cancer patient in the last stage. You are in urgent need of this highly remunerative job.

(a) What are the options available to you under the given situation?

(b) Critically examine the options listed by you.

(c) What type of mechanism would you suggest ensuring environmental compliance?

(d) What are the ethical dilemmas you faced in exercising your option? (Answer in 250 words)

SOLUTION

This case deals with various issues like collusive corruption, environmental degradation, violation of law etc.

(a) Options available with the head of the committee.

   I.   Investigating the case from all aspects with full expertise and integrity.

   II. Overlooking the concerns of the protesters.

   III. Finding the middle path to achieve development with environmental protection.

(b) Evaluation of the options

Option	Merit	Demerit
I	Ensure justice to duty.	In case of accusations comes true then development is compromised.
II	He may get a lucrative job.	Possibility of environmental degradation. Loss of livelihood of locals and long-term damage.
III	May ensure development and environmental protection in the short run	May hamper biodiversity and sustainable development in the long run.

(c) Mechanisms to ensure environmental compliance

- Participation of all major stakeholders in buffer zone-related issues

- Mandating environmental audits in such eco-sensitive zones for clearance of any developmental project.

- Institutionalising the review process of such developmental projects in protected areas.

(d) Ethical dilemmas involved in the case are:

Environment Vs Development: What to prefer environment or economic development?

Personal interest Vs public interest: Whether to get a lucrative job to save his wife by ignoring the concerns of locals, but doing so may pose a threat to the livelihood of locals and degradation of the environment.

Law Vs ethics: Prima facie, the government is authorised to change the boundaries of protected areas hence he may find nothing wrong in this controversial draft but the same draft is against the values of humanity and the environment.

Conclusion: Thus, it can be concluded that economic development and environmental protection should not be considered in binary rather they should be treated as complementary and supplementary in nature to ensure sustainable and inclusive development.

Case Study 2: All students of the State-run M.R. Narayanan National Institute of Visual Science and Arts, a film school at Thekkumthala, Kottayam, have been on an indefinite strike since last month. The students have been demanding the ouster of Ankur Mohan, director of the school, for allegedly discriminating against the students and staff based on caste. The State Higher Education Minister, R. Sindhu, has now instituted a high-level inquiry on the issue and you are the head of that committee. You are a joint secretary whose file for promotion to cabinet secretary is under process in the office of the same minister who is a relative of Mr Mohan. The team has been instructed to submit their findings in two weeks.

The institute has witnessed several waves of protests since its opening in 2016. In the latest bout of protest, led by the students' council of the school, they have raised a set of charges against Mr Mohan that varied from caste discrimination to forcing sanitation workers to do domestic labour at his official residence, including cleaning of toilets.

According to the students, Mr Mohan took the lead in shortening three-year courses offered by the institute into two-year programmes without due consultation and research. The sanitation workers, employed by the institute on a daily wage basis, have testified their experience of receiving inhumane treatment at the hands of Mr Mohan. Another Dalit employee of the institute has approached the SC/ST commission with a complaint of caste discrimination against Mr Mohan.

Documents that emerged in the public domain showed that as many as 26 out of the 30 seats reserved for different categories of students have not been filled while admitting students to the 2022 batch. It showed that several candidates were denied admission with the abrupt introduction of cut-off marks by the institute's academic committee.

The protest, which had been largely limited to the institute's campus in the first few days, struck a chord with filmmakers, film students as well as cinephiles during the 27th International Film Festival of Kerala (IFFK) in Thiruvananthapuram. An array of faces from contemporary local cinema, including filmmakers

Aashiqui Abu, Mahesh Narayanan, Joe Baby, Kamal, K.M. Kamal, Vidhu Vincent, actor Sajith Madathil and musician Shahbaz Aman joined the students at a protest staged at the main venue of the event.

Mr Mohan has stayed largely aloof from the public eye. But talking to The Hindu, he denied all the charges and maintained that "the truth has a way of revealing itself". Eminent filmmaker A.K. Gopalakrishnan, chairman of the institute, has been firm in his support for Mr Mohan and described him as a 'well-bred man'.

The statement, however, drew sharp reactions and the protesters issued an open letter challenging Mr Gopalakrishnan's stance. The institution, meanwhile, is also accused of indulging in retaliatory action by cancelling the room reservations for 52 students who arrived in Thiruvananthapuram to attend the IFFK.

Though the students attempted to contact the director and other officials, their calls went unattended. The State Chalachitra Academy later arranged temporary accommodation for the students. The State government has taken serious note of the issue as is evident from its decision to institute a high-level inquiry into the issue. It, at the same time, does not want to antagonise A.K. Gopalakrishnan, a filmmaker of towering stature, and is treading a cautious path before taking any final decision.

(a) Under the given conditions, what are the options available to you as a head of the inquiry committee?

(b) Critically evaluate each of the options listed by you.

(c) What option would you adopt and why?

(d) What can be the consequences of overlooking the questions raised by the protesting students? (Answer in 250 words) 20 marks

SOLUTION

Introduction:

The above-given case deals with multiple issues like caste-based discrimination, misuse of authority, irresponsible behaviour, lack of transparency etc.

(a) Options available are:

I. Investigating all accusations of students against Mr Mohan with full zeal and honesty.

II. Saving the director by misleading investigation.

III. Recusing from the case.

(b) Evaluation of options

Option	Merit	Demerit
I	Justice to duty. Establish universal action.	May lose a promotion.
II	Denial of duty.	May get promotion
III	Preventing the probability of conflict of interest	Escaping from the duty

(c) As head of investigating team, one should follow option number 1st because by doing so

- He will uphold foundational values of civil servants that is integrity, objectivity and honesty etc.

- He may ensure greatest good to the greatest number that is the students.

- He may establish universal action and can create a role model for others in future.

- He will promote virtue ethics in society at large.

(d) Probable consequences of ignoring the demands of the students:

- Caste-based discrimination may be increased in the institutions.

- Exploitation of workers may continue.

- Promote crony capitalism because the duration of course has been reduced without reducing fees.

- Violation of law of land because reserved seats are not being filled.

- Damage reputation of the institution, which in turn may harm the institution in the long run.

- Peaceful protests may turn into a violent one.

Conclusion: Thus, based on above discussion we can conclude that to ensure quality education and justice to society at large such accusations should be dealt with on a priority basis efficiently and transparently.

PART THREE

ESSAYS OF THE MONTH

Selected essays from Rau's GSI students

ESSAYS OF THE MONTH

SILENCE OF GOOD IS MORE DANGEROUS THAN ACTION OF EVIL.

#PHILOSOPHICAL

SUBMITTED BY: RACHIT JAIN

Rohan was coming back from the public park on a Sunday morning, when he overheard screams and moaning coming from Sachin's house. Sachin and Rohan have been friends since their childhood, and Sachin was recently married to Ruhi. Rohan immediately understood that the screams were from Ruhi, who might be a victim of domestic violence at the hands of Sachin. Rohan was shocked and immediately informed his wife, Rachna. Rohan wanted to call the police, but Rachna stopped him saying that they should not get involved in this case as it is their personal matter.

What should Rohan do now, should he call the police or stay a silent observer of a wrong being done? Even if the evil is Sachin, will keeping silent right on Rohan's part? If he remains a mute spectator, will Rohan be any less guilty than Sachin? It is said that the only condition necessary for victory of evil, is for good men to do nothing.

The above situation highlights many such instances in life, where a person has the choice to speak against the injustice or turn a blind eye against it. It requires courage and high moral standards to overcome such situations. Ideally, Rohan must gather courage and inform the Police, fulfilling his duties as a citizen, a neighbor and a human. Remaining silent will not just make him an accomplice in the crime, but also have a bigger impact on the social fabric of the Nation built on the ideals of justice, equality and fraternity (Preamble).

Speaking truth to power!

Injustice caused to an individual, is an injustice to the entire society. If an oppressor, criminal or aggressor is not but behind the bars then he/she is a threat to the society. Even though a witness is not a perpetuator of the crime but by remaining silent only makes him/her a 'helper' or accomplice in the crime.

It is often seen that in such situations, witnesses often get scared, wooed by money, or intimidated by power. At times there exists threat to life as well. However, if a witness to the crime realizes the importance of breaking the silence, he/she would get the right moral direction to act.

Speaking truth to power request unflinching integrity, courage of conviction, and a sense of fraternity, to own that responsibility of doing the right thing for the society. For instance, Edward Snowden became a whistleblower against America's CIA, just on the belief of doing the justice to the people and protecting their rights. He knew he had to leave his country (currently living in Moscow), but he found himself liable to inform his fellow citizens about the extent of breach of privacy happening in the name of 'State Security'. He had the easier choice of letting it go and live his individual life in peace. But he chose the difficult path just because he realized the need to speak up.

Looking at the bigger picture!

The impact of keeping silent in the state of adversity has impacts which are not limited just to an individual's life (Ruhi's life in our anectode), but it has wider and larger impact on the society, state, and the world at large. For instance, S. Manjunath blowed the whistle against the corrupt practice of mixing lead in Petrol by some top officials of Indian Oil Corp. Although unfortunately, Manjunath had to lose his life, but his courage to speak had a lasting impact – end of corruption by mixing lead as leaded Petrol was harmful for the environment, sense of distrust among citizens, the state had to strengthen the regulatory framework, shareholders of the company lost

confidence, and the image of a PSU got tarnished at a global stage.

Another line of argument in favor of calling out the wrongs, is related to the duty of citizens and doing your part even when doing it gets hard. Stress needs to be put on the fact that silence of a 'good' citizen affects the entire society, when compared to the actions of an evil, which affects an individual victim. For example, an active citizenry can highlight the nexus of politicians with criminals and check the ever-increasing criminalization of politics.

In pursuit of creating a conducive environment for the people to come out and speak, without any fear of life or property, the state must play a much bigger and more active role.

State as an enabler!

There have been many cases in India's since Manjunath's courageous story where hundreds of witnesses have absconded from giving evidence, witnesses often do not turn up at the time of court hearings due to fear or greed of money. This reflects that the Indian state has failed to provide a protective environment for the innocent (yet very important) witnesses or whistle blowers, to come up and speak truth to power.

Although, the whistleblowers (protection) act has been passed, it has not yet been notified. It is high time now that the Government notifies it and implement it in letter and spirit.

Indian Police as well as Judiciary must take measures to provide safety to the witnesses in cases, where they are likely to face threats. This will ensure community policing, where the citizens can act as the eyes and ears of the Police. This will also fasten the judicial proceeding and reduce case-closure rates in lower judiciary.

India can also learn from innovative Global examples like in Germany, where Police has installed emergency alarms in every street, which the citizens can push on witnessing any crime being done to any person (known or unknown).

In conclusion, it is a moral duty of every individual to speak up against any injustice, because as Dante said, "The darkest places in hell, are reserved for those who maintain their neutrality in times of moral crisis".

Not just at the Individual level, but also for the Nation, it is important to raise voice at international forums against the oppressed and suffering states. For ex. India's stand against violence in Myanmar after Military coup, or Human rights violations by Taliban in Afghanistan.

Hence, keeping silence is cowardice, and breaking the silence is a moral act of integrity and displays courage of conviction – acting as a strong force against the evil.

"EVERYTHING WE HEAR IS AN OPINION, NOT A FACT. EVERYTHING WE SEE IS A PERSPECTIVE, NOT THE TRUTH."

#PHILOSOPHICAL

SUBMITTED BY: ABHISHEK SINGH

Disclaimer: The viewpoints in the topic are strictly personal   of the writer above. The role of Rau's IAS   Study Circle is to present the write-up   in its original form, hence the study   circle neither endorses nor rejects any viewpoint in the submission. The purpose is only to showcase the manner of writing.

Therefore, it is the sole responsibility of the reader to use his/her intellect to check the veracity of viewpoints.

Once in a village, there were five men who were unaware about the animal, elephant. One day an elephant came to their village. The villagers decided to do an experiment. All five men were blindfolded and asked to feed the elephant with their hands. One person touched elephants' tusk, second trunk, third legs, fourth tail and fifth stomach.

On observation first person said elephant was like a spear, second said it was like a tree trunk, third said it was like a pillar, fourth said it was like a rope and fifth said it was like

a wall. This shows what the men felt was their perspective and what they said was their opinion. It was not the truth. This story is rooted in the philosophy of 'Anekantavada' i.e., people have different opinion about truth, and which can differ from the truth. In today's world, labels of truth and facts are added to opinion and perspective. This makes it difficult for common masses to differentiate and understand.

The marketing agencies have been producing ever new techniques to manipulate and 'influence' people. Most pan masala and alcohol companies run their advertisement campaign through "elaichi" or "music CDs." In the first look they are selling non-harmful products, but they are actually selling sin-goods.

Similar is the case of 'fake news,' which are intently fabricated and manipulated opinions and perspectives presented to appear as facts. They tend to hit the insecurities of people and can cause 'societal unrest.' Take examples of Pehlu Khan and Palghar mob lynching episodes. In the former case, a person was lynched on fake news that he was carrying cow meat. In the second case, two saints were lynched on fake news that they are kidnappers.

In cases of mob-violence or riots when people of one community are killed by other community. We tend to draw a line that Hindus were killed, or Muslims were killed. These are opinions, the truth is a human life is lost, as valuable citizen of our nation is lost. Hindu, Muslim, Sikh, Christian etc. are variables, they can change but the fact that we are humans is constant.

Why do people take opinions as facts and perspective as truth?

High persistent Illiteracy in India. More than 25% of people cannot read and write. This makes many among us gullible to believing whatever they hear or see.

Eco-Chamber effect of social media has now been deeply rooted into society. The eco-chamber affects leads to social media connects and ring fences people of similar ideologies who sometime reinforce falsehood and propaganda. Opinions are reiterated many times to the effect that people start believing it to be true. For example: My parents started believing that Sai Temple Trust refused donation for Ram Mandir as this message was there in some WhatsApp groups, to which they were

members too. However, this was fake news. The phenomena of Algorithmic existence, social media and analysis of user behaviour is used for targeted ads and customers are coaxed to buying stuff they do not really need.

Creation of Binary: People want to simplify things. They think either someone is with them or against them. They do not want to understand the complexities of truth. For example: Savarkar was a freedom fighter. However, some see him as a hero and others see him as a villain due to his 'Hindutva' politics. Savarkar cannot be classified into binary, he is greater than that.

Sensationalization of News: This has led to 24 × 7 consumption of news and made people information hungry. They consume and react to whatever they get as truth.

Presence of Stereotypes: Any opinion that suits a stereotype is accepted as truth by the person holding a stereotype. For example: If an Islamophobic person sees a Muslim guy having multiple wives, he will declare that the entire Muslim community has multiple wives. He will not judge the person individually.

Power of social media has also been abused in politicking, electoral manipulations, voter profiling and targeting. For example, Cambridge Analytica and Facebook were accused of manipulating voters in the USA in favor of voting for Trump.

Importance of Separating Opinion and Facts

Need for rationality and critical thinking: People should take decision on merits and facts not on opinions. It will help in casting away societal prejudices. It solves caste, religious and other ethnic problems as it will make humans realize that they are human's first.

Tolerance in society will increase as people will understand that different people have different opinions and perspectives. When people realize the fact that religions are different highways that lead to same destination, and its personal choice that a person picks which highway, it will make them more tolerant and open.

Scientific Temper in society will increase as people will not uncritically believe in what they see or hear. They will question the authenticity of everything. They will question

the authenticity of everything. This will help in creating scientific temper in the society.

Ethical ecosystem of society will improve as morals of people would be based on facts and truth. When people internalize the fact that there is injustice, poverty and misery, they tend to become empathetic, just and philanthropic to end suffering.

Steps we can take to separate opinion and facts

Firstly, questioning everything around posts in social media and developing a curious attitude. Secondly, fact check everything, we see or hear on social media. Thirdly, interacting with people of diverse ideologies to create

tolerance and check rationality of one's beliefs. Fourthly, spread awareness about different opinions and facts. Fifthly, media house should clearly display on screen when they display an opinion. And lastly, governments should act against people spreading fake news.

In a post-truth world where opinions are taken as facts, we need to be extra cautious in believing what be see and hear. To do so we need to develop curiosity of questioning everything. This curious altitude of Buddha helped him gain enlightenment, so it will surely help us in knowing what truth and facts are.

FROM BEING TO BECOMING

#PHILOSOPHICAL

SUBMITTED BY: RASIKA RAJESH MULEY

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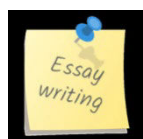
Mahatma Gandhi went to South Africa as a lawyer to fight a case for his client Dada Abdullah. The visit was in his professional capacity of a lawyer. But on his way, he had a firsthand experience of racial discrimination during train his journey. Later, he was moved by plights of Indians in South Africa. He decided to fight colonial power for securing the rights of Indians.

Initially, he resorted to constitutional methods. But realizing power of masses, he experimented and developed techniques like Satyagraha, Civil Disobedience, etc. and gave tough fight to colonial power. He successful fought against Transvaal Immigration Act, Poll Tax Act, Registration Certificates Act etc. Thus, Mahatma Gandhi form being a lawyer, ended up becoming a mass leader from South Africans.

On the other hand, Hitler was a leader of Nazi Party in Germany. He was moved by humiliation faced by Germany because of Paris Peace Treaty post World War I. He aroused nationalist feelings of Germans. He blamed Jews and Weimer republic for vagaries of Germany. He went from a leader to becoming a dictator and threw the entire world in devastating World War 2. Thus, Hitler from being an ardent nationalist, ended up becoming an architect of World War 2.

These stories show that every individual exists has some being and ends up becoming something. It is their personality, intentions, attitudes, values, morals which give shape to their evolutionary trajectory. What is true for individual, also applies in larger context of city, nation or the world.

This essay analyses various perspectives on 'being to becoming' at levels of village, city, nation and world. It tries to look up at qualities and circumstances that shape the evolutionary of the same.

First, what it means for an individual transition from being to becoming? It is said that individual is product of nature and nurture. Everyone is born with some inherent capacities and the process of socialization further molds

the personality of individual. Everyone has certain goals in their life. And hence she attains knowledge to achieve it. The ultimate aim is to gain self-actualization. In the process, individual transforms from being to becoming. This is what is highlighted by the journey of Gandhiji and Hitler.

Similarity, societies, states or countries also evolve. Change is the law of nature and one who fails to adopt is left behind. Every institution or nation at large has certain vision and in the process of attaining it, transforms from being to becoming.

Consider the case of a village named Ralegaon Siddhi in Maharashtra. It was a drought prone area where even drinking water was a luxury. The agricultural productivity was incredibly low. Menace of alcoholism was growing and youth was forced to migrate to other cities for employment.

But then came a leader in the form of Anna Hazare who changed the destiny of village. Ralegaon Siddhi from being impoverished village ended up becoming flourished village. This was made possible by leadership of Mr. Anna Hazare. He led the community efforts towards watershed management, mobilized the youth, formed village samitis to fight against social ills. Today, Ralegaon Siddhi is one of the prosperous villages not just in Maharashtra but the country.

Similarly, in Swachh Survekshan, Indore achieved a remarkable feat by becoming cleanest city fifth time in a row. Earlier it used to be a city having garbage dumps, stray cattle, poor sewage infrastructure and disease ridden. But now it is cleanest city of India. From being a city of dumpyards to becoming cleanest city is an inspiring journey.

How is it possible? It was a muti-pronged strategy. Municipal corporation of Indore led the effort by arranging infrastructure. For door-to-door waste collection, NGOs were roped for spreading community awareness, private sector was involved for recycling of waste. The most crucial contributors were citizens whose participation was essential to make these efforts a success story. Thus, Indore is model for the governance where multiple actors coordinate and contribute to achieve the mission.

Now, if we enlarge the scale and look outside India, we can easily find a success story in our neighborhood, i.e., Bangladesh. In the 1970s, Bangladesh was one of the poorest countries. From being one of the poorest to becoming fast growing economy with improved human development indices indicates an outstanding achievement.

After Independence, Bangladesh built its indigenous model of development. It stressed on textile sector which is labour intensive. Its Gramin Bank model of microfinance is also notable one. It also focused on capacity building of citizen and these efforts fructified. All this has resulted in Bangladesh transitioning from one of the least developed countries to becoming part of developing countries such as India.

Even at world stage, we can witness the evolution from being to becoming. Till the first half of the Twentieth Century, colonialism was a reality. The world witnessed World Wars among great powers to control the previous colonies. These wars devastated global economy, took large toll of human lives and suffering.

But post World War 2, need was felt for stable world order. League of Nations established after the World War I failed to prevent the next crisis in line. Hence a new organization, called United Nations Organisation was created. UNO pioneered the efforts towards world peace. Individual countries contributed in the efforts. Today the world order has changed from being conflict ridden to becoming rule based and peaceful order.

All this highlights how a village, city, country and the world evolved on path of progress. But then the question arises. Is evolution always positive? Is the 'becoming' stage always better than 'being' stage? Let us take few more examples to throw light on this perspective.

If we look at evolution of human being, we see that human being used to live in harmony with nature. In the Mesolithic paintings of Bhimbetka or Indus Valley Civilization, nature worship or harmony with nature was

quite visible. But as human beings progressed, advances were made in field of science and technology.

Exploitation of nature started. Today, the world is witnessing climatic change. Extreme weather events are rising in frequency. All of this is a fallout of human greed for natural resources. Thus, from being a nature lover to becoming nature exploiter is a devastating path that humanity has taken.

Similarly, industrial revolution was one of the milestone events in history of humanity. Britain was the first country to experience industrial revolution because of its political stability because of availability of natural and human resource, quest for rationally and technological advancements. Industrial revolution has eased the life of people but Britain from being industrial power ended up becoming an imperial power. Its search for cheap raw material and markets for finished goods encouraged territorial expansion and colonization of world.

Same can also be said about China in current context. From being one of the fastest growing economies, it is becoming an expansionist power threatening the world order. Its debt-trap diplomacy and claims of sovereignty over 9-dah line in the South China Sea, Belt and Road initiative, frequent incursions in India's territorial domain, etc. are testimony to its changing nature.

Naxalism was started as a small movement for peasants' rights but today it is one of biggest internal security threat for India. Communalism whose seeds were sown during colonial rule had caused great damage to India. India from being religiously diverse and united country ended up becoming partitioned country on the lines of religion.

Thus, from being to becoming is journey fir every individual, nation or world at large. For any individual to progress on positive trajectory, it is essential to have a vision. And then consistent efforts in that direction can help him achieve success.

But as said by Mahatma Gandhi, means should be pure, only then one can become ethical. It is very essential to have moral values like values of equality, honesty, fairness, tolerance, empathy, etc. to achieve successful journey of from being to becoming. Similarly, for nation or world, it is community partnership, leadership of state, collaboration with multiple actors like private sector, media, NGOs, etc. can bring about transformation being to becoming. International Cooperation on the values of '5s' i.e., Sahyog (Cooperation), Shanti (Peace), Samman (Respect), Samvad (Dialogue) and Samriddhi (Prosperity) is very essential for peaceful and stable world order.

From 'being is becoming' is a journey. It is the path that we take which decides course of evolution. It is the same journey that can create mass leaders like Mahatma Gandhi or dictators like Hitler. It is same journey that can make Bangladesh prosper or create an expansionist power like China.